THE CHILDREN'S CITY

ESTHER SINGLETON

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THE CHILDREN'S CITY

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Curtis flying over the Statue of Liberty at the end of his flight from Albany to New York, May, 1910.

THE CHILDREN'S CITY

BY

ESTHER SINGLETON

AUTHOR OF "DUTCH NEW YORK," "SOCIAL NEW YORK UNDER THE GEORGES," "THE GOLDEN ROD FAIRY BOOK," ETC., ETC.

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PREFACE

This little book, each chapter telling of one of the walks, or jaunts, in or about the city, of two children and an older companion, is intended to help young people, their governesses, tutors, or mentors to an enjoyment and appreciation of the pleasures of New York that are free to all. And it may serve too, as a guide for adults who would become acquainted at first hand with what is most interesting and most easily accessible in our American metropolis. In it attention is always directed to what especially appeals to young eyes, and the information offered is of the kind for which youthful minds and imaginations have naturally a keen appetite.

Opening with a brief, sketchy account of Dutch, English, and Revolutionary and post-Revolutionary New York, the chapters that follow are given to excursions by land and water in which the historical landmarks and natural beauties of the city are the theme — trips down the bay, or to parks and pleasure-grounds; to excursions to the museums; to visits to the Zoological Park, the Botanical Garden, the Aquarium, etc., etc.

Many generations of children have taken their way "unwillingly to school" and gained knowledge in dull drudgery, hearing their elders unsympathetically repeat: "There is no royal road to learning." At the present day, however, parents

and teachers often turn work into play by smoothing the rough road of the pursuit of knowledge and making education a pleasure instead of a toil. One of the most popular as well as successful ways of arousing the interest of children in what they should know is that of taking them individually, or in classes to galleries, museums, historic sites, and other places of interest, and let them see for themselves the arts and crafts of the human brain and hand, and the wonders of Nature,— animal, vegetable and mineral. Children are inveterate questioners, and the answers they receive and the objects to which their attention is directed often leave a more lasting impression on their minds than the lessons they learn from mere text-books. No city in America offers so good an opportunity for a liberal education by intelligent observation and sympathetic description as New York. Though it has no remote historical antiquities, it has quite a respectable age of three centuries, with landmarks of the past sure to kindle children's patriotism if presented in the right light by one who knows about them. And its galleries, museums, and zoological and botanical exhibitions are of the first value and of the liveliest interest to juvenile visitors.

In taking children to visit museums or collections of living curiosities, much time is often consumed in pausing long in front of objects that have comparatively little interest for the juvenile mind, before moving on to the chief attractions, or the most valuable possessions of the special exhibition. Therefore, it is only natural that fatigue should conquer the mind and limbs long before the best exhibits of the collection have been visited.

On the other hand, people often try to see the

whole of a great collection on one visit, dragging the poor children that accompany them from gallery to gallery, from corridor to corridor, or from cage to cage, trying to discover what they take interest in, or, what is worse, trying to cram them hurriedly with information and bewildering their minds with too many impressions too rapidly received.

It is hoped that in this series of imaginary outings of two children and their companion, some hints may be found for other children who would like to follow in their footprints and see and enjoy what this city offers in the way of free and instructive pleasures.

It will be noted that the three people in this book always start out in an unwearied and happy mood, and talk about what they see in a perfectly natural and off-hand manner; and that the cicerone who takes the children on these trips does not attempt to show them everything, but selects only the most famous, striking, peculiar, or beautiful objects that are offered for exhibition, or those that naturally and particularly attract the attention of the children.

In several cases, it would require much endurance to cover all the ground or to see all the objects allotted to one visit. Those who follow in the footsteps of Doodle and the children, will, therefore, use their own judgment and make two or several visits instead of one as described.

The illustrations in this volume will tend to make prospective juvenile visitors to the places represented eager to see them, and will serve pleasantly to recall what has been seen.

I wish to express my thanks to the Directors of

the Zoological Park for valuable information most courteously supplied, to the Directors of the New York Botanical Garden and of the American Museum of Natural History for their kind permission to reproduce photographs; also to *Munsey's Magazine* for the loan of the old prints from which two of the illustrations in the first chapter are made, and for permission to reproduce from its pages the view of New York in 1740.

E. S.

New York, October, 1910.

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THE CHILDREN'S CITY

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CHAPTER I

INTRODUCTORY

IN WHICH THE READER IS INTRODUCED TO THREE NEW FRIENDS WHO HAVE NOT THE SLIGHTEST IDEA THAT THEY ARE BEING OBSERVED; AND IN WHICH THE AUTHOR AND READER OVERHEAR THEIR THREE NEW FRIENDS MAKE PLANS FOR SOME PLEASANT OUTINGS AND LEARN SOMETHING ABOUT THE FOUNDING, GROWTH AND DEVELOPMENT OF THE WONDERFUL CITY OF NEW YORK.

It was four o'clock. The study door opened, and in came Jack and Nora on their daily visit to their much-loved Doodle.

Doodle was a relative,— whether an uncle or an aunt I will leave *you* to guess; and, although a Grown-Up, was so perfectly satisfactory to Jack and Nora that this unfortunate failing was forgiven, and occasionally overlooked entirely. Sometimes they wished that Doodle had not leaped the mysterious barrier that divides romantic childhood from that cold, unsympathetic, peculiar and utterly commonplace world where most Grown-Ups dwell. It would have been even nicer if Doodle had waited until old Father Time should force them to leave the pleasant Valley of Childhood, where the flowers

are always blooming and the birds are always singing, and been of their own delightful age (Jack was ten and Nora nine), but they made the most of the sad circumstance, and enjoyed as much of Doodle's society as the latter could afford to give them, charitably overlooking Doodle's rare but occasional lapses and back-slidings from their golden world.

Four o'clock was a longed-for hour, for then they had the privilege of coming to the study for a delightful hour with Doodle. One day they would read a story together or they would each tell a story of their own; one day they would have a little chat or chatter; another day they would play a game of some kind for which pencils and paper were required; and on another occasion they would paint or draw; but whatever they did was always pleasurable. Sometimes they would find Doodle busy arranging that enormous desk, so full of mysterious pigeon-holes and drawers containing so many envelopes, neatly labelled and filled with scraps of writing and countless tracings and pictures of all sizes and kinds. That desk was a treasure-house. No genie's cave was ever more mysterious or richer with gems unseen; — buried in the dark depths. Then Doodle's books were also fascinating — they always answered every question Nora and Jack asked. Many of them were illustrated, too, with beautifully coloured plates, or quaint old-fashioned wood-cuts. Doodle's den was an ideal place, indeed.

"I was wondering as you came in," said Doodle, "if you two children, who have lived all your lives in New York, really know anything about this great city. You are at home in Fifth Avenue, Broadway,

View of New Amsterdam (now New York), after a plate in Montanus's Nieuwe en Ombekenke Weereld.

Battery Park, Twenty-third street, Forty-second street, the upper West side and many side streets up-town and down-town, and you travel in the Elevated and the Subway and know all the sights and sounds of the streets; but I wonder if you are really acquainted with New York?"

There was a pause.

"Do you know that New York is one of the largest, richest and most wonderful cities in the world?"

"Oh yes, we know that very well," answered the children together; and here before going any further I must explain that Jack and Nora frequently spoke in the plural. It was generally "we" and "us"; for they had always shared each other's studies and pleasures.

"I wonder if you know New York's history, or if you have ever visited any of the buildings and places connected with the past! Do you know the City Hall? Fraunces Tavern? Trinity Church? St. Paul's? St. Mark's? Can you tell me anything about the Battery? Do you know how the Bowery got its name? Why Bowling-Green was called Bowling-Green? Do you know where General Washington bade farewell to his army? Where he was inaugurated President of the United States? Do you know anything about Fort Amsterdam and Fort George?"

To all these questions the children shook their heads.

"Well then, have you enjoyed the many pleasures that our great city offers to all — rich and poor, young and old — alike?"

"What do you mean, Doodle?"

"I mean this: Have you ever been to the Met-

ropolitan Museum? To the Natural History Museum? To the Aquarium? To the Zoological Park? To the Botanical Gardens? Have you walked through Central Park with your eyes really open?"

"No," was the answer to all these questions.

"Then how would you like to take some pleasant outings with me, so that we may learn something about our city. The bright, spring days have come. What do you say to a little jaunt once a week?"

"Do you really mean it?" came from both delighted children.

"Indeed I do," answered Doodle.

"Shall we begin to-morrow?" asked Jack and Nora.

"No; not to-morrow. Not until next Monday; for I want to tell you something about old New York before we start on our excursions. I want to give you an idea of what our city was like at various periods. I want to tell you about Dutch New York; English New York; New York in the days of the Revolution; and New York in the Nineteenth Century."

"Can't you tell us now?" asked the children eagerly.

Dutch New York.

"Of course I can," replied Doodle leaving the desk and taking a comfortable chair. "Nora, you can sit on my knee, and Jack, you can bring a chair for yourself; but first hand me the atlas. Turn to the map of the world, Jack, and find New York. Now look on the other side of the Atlantic ocean and find Holland. It is a long distance away from

us, isn't it? More than three thousand miles! Now, Nora, you please turn to the map of Holland; and put your finger, if you please, on *Amsterdam*. You will notice that this city lies on a big sheet of water called the Zuyder Zee; or, to be more exact, it lies on an arm of the Zuyder Zee called the Y (pronounced eye).

"At the beginning of the Seventeenth Century Amsterdam was a very rich and splendid city — one of the very richest cities in Europe. She was such an important port that she was often called 'Queen of the Seas.' A merchant vessel was her seal and her harbour was always full of ships arriving and departing for countries near and far. Amsterdam contained fine old churches and public buildings and many of her canals were lined on both sides with the homes of rich citizens. These were filled with splendid furniture, beautiful paintings, rare pieces of porcelain, delicate specimens of glass, articles of silver and gold, artistically worked, fine Turkey rugs and carpets and many curiosities from the Far East. The Dutch were always great sailors and explorers, and they were among the first to trade with China and Japan. The Exchange in Amsterdam was a world famous money-market and the celebrated Bank of Amsterdam, established in 1609, was almost as rich and important as the Bank of England. In 1602 the merchants of Amsterdam founded the East India Company to regulate all matters of foreign trade; and among the many persons this company employed was an Englishman, named Henry Hudson, whom they sent out in 1609 to see if he could find a new way to reach the East Indies by a northwest passage. I suppose I need not tell you that this boat was named —

"The *Half Moon!*" exclaimed Nora. "We saw it last September at the Hudson-Fulton Celebration."

"No, dear, you did not see the *Half Moon,* you saw a reproduction of it; but I am glad you saw this boat, for I need not describe it. Well, let us go on. The crew that Henry Hudson commanded consisted of from sixteen to twenty men, some of whom were Dutch and some English.

"On the first of September, 1609, Hudson beheld the Highlands of Navesink, which he described as 'very good land to fall in with and a pleasant land to see.' The next day he sailed around what we now call Sandy Hook; and on the day after that he anchored in the bay off the Jersey shore. On the 6th of September, he sent a little boat out to explore the coast. She passed through the Narrows and came in sight of Manhattan Island; but, sad to relate, the boat was attacked by two canoes filled with Indians and one of the party, named John Coleman, was instantly killed by an arrow that pierced his throat.

"Five days later Hudson took the *Half Moon* through the Narrows and anchored in New York Harbour, where he was visited by the Indians who brought presents of Indian corn and tobacco, beads and other strange things. On September 12, Hudson sailed up the river, which now bears his name, as far as Albany. He sailed on October 4th for Holland; and as soon as he reached Amsterdam and reported his great discovery, describing in glowing terms the noble river and the fertile country covered with beautiful trees, grass and flowers, the abundance of the grain and vegetables produced by the Indians, and, better than all, the pro-

fusion of furs to be had, the merchants of Amsterdam agreed that the new country offered every advantage for settlers and traders that could be desired. So they were not very long, you may believe, in fitting out trading vessels and hurrying them to Manhattan for more detailed reports. When these came back with good accounts, the Amsterdam merchants made arrangements to establish an agency on Manhattan Island and to send ships regularly back and forth. The little trading-post now established on the south point of the Island commanded by Hendrick Corstiaensen, soon increased in numbers and was formed into the United New Netherland Company.

"In the meantime, the merchants and bankers in Holland formed in the year 1621 a great association called the West India Company to settle all matters of trade and government, treaties with the Indians and all questions that might arise with regard to the government of the new colony. In 1623 the West India Company sent out its first boat, the *New Netherland.* She brought thirty families, who were landed near the present site of Albany where they made a settlement. The *New Netherland* returned in the course of a few weeks with 500 otter skins, 1500 beavers and other freight worth about $12,000 — a big sum in those days. This staunch old boat, the *New Netherland,* went backwards and forwards between Old Amsterdam and New Amsterdam for thirty years!

"It was soon decided that the headquarters should be on Manhattan Island; and ships were sent out with settlers and their families who were supplied with horses, cattle, hogs, sheep, seeds, farming-tools, household furniture and other necessities for

making a permanent colony. Altogether, about 200 persons came.

"In 1626 the *Sea Mew* brought among its passengers Peter Minuit, whom the West India Company sent out to be the Director-General, or Governor, of the settlement. The first thing that Peter Minuit did was to buy the Island of Manhattan from the Manhattan Indians; what do you think he paid for it?"

"Millions and millions of dollars," Jack quickly answered.

"Not a bit of it! Sixty guilders — that is twenty-four dollars! Think of it — the whole of Manhattan Island (about 22,000 acres) for only twenty-four dollars!"

"What would the Dutch have to pay for it to-day, Doodle," asked Jack, "if they could buy it from us?"

"About four and a half billions of dollars, I should say," answered Doodle. "Well, let us go on with our story.

"The *Arms of Amsterdam* was another boat that was sent out in 1626. She returned to Amsterdam with a great many skins of beaver, otter and mink, and a great deal of timber; and, best of all, carried the news that Peter Minuit had bought the Island of Manhattan for the Dutch.

"The colonists now made a fort, which they named Fort Amsterdam; and then they built a mill which was worked by horse. The second floor of the mill they arranged for a meeting-place where they could have religious services; for the Dutch were always very religious and great church-going people.

"The Company's House was a stone building

with a thatched roof; but the dwelling-houses of the settlers grouped around it, were of wood. Fort Amsterdam was finished in 1628. In this year the colony numbered 270 persons, including children.

"The West India Company gave to each settler a farm, stocked with cattle, and allowed him garden seeds and tools; and for this the tenant had to pay a portion of his profits. Just as a flame will spread from one blade of grass to another until a whole field is burning, so the enthusiasm for emigration spread, and ship after ship left Amsterdam crowded with passengers and packed with cattle and supplies.

"On one of the quays in the harbor of Amsterdam you can see to-day an old round stone tower that was built five hundred years ago. It is called the 'Weepers' Tower' (the Dutch name is Schreyerstoren), because from it people were accustomed to wave their tearful farewells to friends on departing ships; and from it many and many with aching heart and tearful eye have watched the vessels sail out into the Zuyder Zee on their long voyage to New Amsterdam in the unknown western world. The Atlantic trip was full of dangers; and the new colony held many hardships, privations and perils in store for those who had decided to brave the terrors of the sea and seek their fortunes in a new world. In family partings hearts beat with the same emotions three hundred years ago as they do to-day and those who stood on the Weepers' Tower and watched the *Arms of Amsterdam,* or the *New Netherland*, or the *Sea Mew*, or the *Gilded Fox,* bearing their loved ones away, wept long and bitterly before they could go back to their daily duties and daily pleasures. And remember, too,

how long, how very, very long it was in those days before they could hear any news of the good ship!"

"How long did it take to get here?" asked Nora.

"The voyage lasted from seven to eight weeks, and the travellers were more than glad when their boat passed through the *Hoofden* (as they called the Narrows) and approached the little settlement. The people on Manhattan were glad, too, to hear news from home, to welcome friends and relatives who had been induced to join them, and to receive supplies; so, whenever a ship was seen in the distance, they raised a flag on the tall flagstaff of Fort Amsterdam in greeting."

"Where did the boats land?" asked Jack.

"The anchorage ground was the roadstead between Kapske Point (South Ferry) and the head of Coenties Slip near the City Tavern on the East River; and ships that landed anywhere else were compelled to pay a fine."

"The town was soon laid out in streets and lots and cut through with canals. It was also protected by a strong palisade with gates that were shut at night; and, in case of an attack by the Indians, everybody could seek refuge behind the walls of the Fort. The houses were built along the lines of the Fort and the river shore, which extended to Pearl Street and from Whitehall to Broad. It was called the *Strand*.

"There was also a road from the Fort to the Ferry, which crossed to Brooklyn, and a stockade at Wall Street, where the city ended.

"Some of the houses were built of brick and stone with tiled roofs and some were of wood with brick chimneys.

"Would you like it if an old Dutch traveller

could suddenly come into this room and tell us how the city looked when he saw it more than three hundred years ago?"

"Oh, indeed, I should!" cried Jack.

"Indeed, I shouldn't!" cried Nora. "I'm afraid of ghosts!"

"Well I am going to ask him to come. Nora, your eyes need not grow so round and you need not look at me so questioningly. Jack, open the third drawer of my desk and hand me that large yellow envelope marked *New York Seventeenth Century*. Ah! here is what I want.

"Here is a note from an old traveller, named Montanus, who came to New Amsterdam and was much delighted with all that he saw. Now Jack suppose you read what he has to say about the city as it was in 1671; and for the moment we will imagine that you are Mr. Montanus."

Jack obligingly consented and read as follows:

"'On the Manhattan's Island stands New Amsterdam, five miles from the ocean: ships run up to the harbour there from the sea with one tide. The city hath an earthen fort. Within the fort and on the outermost bastion towards the river, stand a windmill and a very high staff, on which a flag is hoisted whenever any vessels are seen in Godyn's Bay. The church rises with a double roof between which a square tower looms aloft. On one side is the prison, on the other side of the church, the Governor's house. Without the walls are the houses mostly built by the Amsterdamers. On the river side stand the gallows and the whipping-post. A handsome public tavern adorns the farthest point. Between the fort and this tavern is a row of suitable dwelling-houses: among which

stand out the warehouses of the West India Company.' "

"Thank you, Mr. Montanus," said Doodle, "Now I will tell the rest.

"The houses were built in the quaint style of those at home with crow-stepped roofs, pointed gables and dormer windows and the sills and gardens were bright with flowers. Of course they had tulips (you know the Dutch were crazy about tulips) and gilliflowers and red and white roses and lilies and violets and all the native flowers they found here — sunflowers and red and white lilies and morning-glories,— and all the native vegetables and fruits. Behind many of the houses were splendid orchards of peaches, pears and apples. The West India Company had a large garden on Broadway not far from the Fort, which was cultivated by the Company's negroes.

"You sometimes hear that the Dutch lived very simply and poorly in the early days of New Amsterdam. Of course this was true of the poor people, the small farmers, the servants and the workmen; but the wealthy colonists had everything in their houses here that their rich relatives had in old Amsterdam.

"Their homes were filled with fine furniture — rich ebony chairs; chairs covered with leather and made comfortable with cushions; East India cabinets full of curiosities; great nutwood cases, or wardrobes, called *kasten,* in which they kept their clothes and treasures; and cupboards with glass doors, filled with china from the East and blue and white flowered ware from Holland. Bright curtains draped the beds and hung at the windows; the tables were covered with Turkey

rugs; looking-glasses brightened the walls; and many families had large collections of paintings. So you see there were wealth, style and elegance in New York from its earliest days.

"New Amsterdam was also a town of pleasure. The old Dutch burghers and their families did more than smoke their pipes and knit their socks as some people would have us believe. They had wedding-feasts and christening-parties; they went to church in rich attire, carrying silver-clasped Bibles in their hands; they had sleighing and skating in the winter and picnic parties in the summer; games and masquerades at Shrovetide; May-poles and many games in the spring; frolics at Whitsuntide; bonfires on St. Martin's Eve; cattle-markets and fairs in the autumn; hunting, fishing, bowling and golfing; archery matches; and special feasting and fun at Christmas, New Year's Day and Twelfth Night. The greatest holiday of all, however, was December 6,— St. Nicholas Day. St. Nicholas, patron of sailors and patron of old Amsterdam, was chosen to be the patron saint of New Amsterdam. The church in the fort was St. Nicholas's Church, and St. Nicholas's Day, or Eve rather, was the favourite of all holidays. This was the time they made the special St. Nicholas cakes and the marchpane and gilded the nuts and put their little wooden shoes (not stockings) but wooden shoes by the chimney for St. Nicholas to fill. And St. Nicholas never made a mistake. To the good children he brought presents and sweet meats and nice surprises; and to the naughty ones — I hardly like to tell you,— guess! You can't? Well, then,— *a switch!*"

English New York

"One day in 1664 an English vessel arrived in the harbour with an armed force under Colonel Nicholls, who demanded the surrender of New Amsterdam to him as the representative of the Duke of York, the brother of Charles the Second, King of England. The English claimed the province by right of earlier discovery than the Dutch and Charles the Second had granted it to his brother, James. The Dutch Governor, Stuyvesant, unwillingly submitted on finding that the city, as a whole, was favourable to the change.

"The Dutch flag was hauled down, and the English flag raised in its place over the Fort, which was now re-named Fort James, and the name of the town was changed to New York.

"New York continued to be an important trade centre: its merchants at this time were of several nationalities. In 1712, the population numbered 5,816,— Dutch, French, English, Portuguese, Jews and negroes. In 1720, a free grammar school was opened; in 1725, the first newspaper — the *New York Gazette* — was established, and in 1729 a city library was founded. In 1731, the population numbered 8,882. In 1744, there were 1,141 houses, and in 1751, 2059 houses.

"In 1753, New York was described as being about a mile long and half a mile broad, 'the most splendid town on the Continent.' The streets were paved and the chief streets were planted with trees so thickly that to walk about the town seemed like walking in a garden. The water-beeches, elms, locust trees and the sweet-scented lindens, were filled with birds and the tree-frogs amazed all the

Fort George and the town of New York from the South West, in 1740. From a Lithograph by George Hayward.

foreign visitors. The houses were of brick several stories high, with their gable ends turned towards the street, and their roofs covered with tiles or shingles. Many of them had a balcony on the roof where people sat in the summer evenings to enjoy the view of the river and harbour. The city was built more thickly on the East River. West of Broadway, between Dye and Warren Streets, was situated the King's Farm; and facing the King's Farm, on the other side of Broadway, was the Common, or Park. Beyond this was a lake called the Fresh Water, or Collect, from which a canal (afterwards Canal Street), carried its waters to the Hudson.

"The old City Hall, formerly the Dutch Stadt Huys, at Coenties Slip, was given up in 1699, and a new City Hall was built in Wall Street.

"In 1766, New York contained 3,223 houses. The line of palisades, around the northern end of the town, starting from James and Cherry Streets and running across Duane and Pearl Streets south of the Fresh Water and north of Warren Street, was strengthened with three block-houses having six port holes for cannon. The four gates were in Pearl Street, Chatham Square, Broadway and Greenwich Street. The Ferries were Peck Slip to the Fulton Ferry in Brooklyn, Coenties, Whitehall, Burling and Beekman on the East side; but there was only one on the Hudson side,— at the foot of Oswego (Liberty) Street. There were also ferries to Perth Amboy, Powles Hook and Staten Island. Stages carried the mails and passengers twice a week to Boston, three times a week to Philadelphia and once a week to Albany; and packet-boats went regularly about once a month between New

York and Falmouth. The harbour was full of trading vessels, for the majority of the wealthy citizens were interested in the shipping business, and many of the merchants imported goods on their own account.

"The principal front of the city faced Long Island, the most important building was Fort George, the walls of which extended from the present Greenwich Street and Battery Place to Whitehall and Front Streets. The southern end was built on rocks at the water's edge. The Governor's House stood within the walls on the site now occupied by the Custom House.

"There was a large open space in front of the Fort, which was called The Parade, because the soldiers drilled there. In 1732, the Corporation leased 'a piece of land lying at the lower end of Broadway, fronting the Fort to some of the inhabitants in order to be enclosed to make a Bowling Green there, with walks therein, for the beauty and ornament of said street as well as for the delight of the inhabitants of this city.' It was leased to Peter Bayard, Peter Jay and John Chambers for eleven years at the rent of one pepper-corn a year!

"The lower part of Broadway being near the Fort was a very fashionable district. On what is now the corner of Battery Park and Broadway, Captain Kennedy, the naval commander and Collector of the Port, built a fine mansion in 1760. The shady street leading from this point to Trinity Church was built with handsome residences and called the Mall.

"Another fashionable street, was Pearl. On the corner of Broad and Pearl Street, stood and still stands Fraunces Tavern!

"Broad Street, originally a marsh through which the Dutch had made a canal, was crossed by a bridge at its foot, that gave its name to Bridge Street. This was one of the principal landing places for vessels. King's Bridge over the Harlem river was the only bridge connecting New York with the mainland until 1759 when Free Bridge Dyckman's, a little to the south of it, was opened.

"There was another little bridge which I must tell you about — the 'Kissing-Bridge,' over De Voor's mill stream (Fifty-third street between Second and Third Avenues) which got its name because it was the custom for a lady's escort to kiss her when they drove across. The custom dated from the Dutch; but the English liked the idea so much that they kept it up. The old Boston Post Road passed over it and the Kissing-Bridge did not disappear until 1860."

"I think that was a horrid custom," said Nora, pouting.

"*I* don't," said Jack airily, "it must have been lots of fun to tease the girls."

"Georgie Porgie, Pudding and Pie, kissed the girls and made them cry," sang Nora,—"*that's* what *you* want to do."

Doodle, taking no notice of the interruption, continued:

"The great centre for business was Hanover Square where many of the rich merchants had their counting-houses. A good many business men, then as now, had country seats on Long Island, Staten Island and on the Jersey shore and came to town by boat to do business for a few hours each day. Some of the best families, too, had shops of their own and business offices in, or near, their dwellings.

"The gardens of the country-seats were beautifully laid out in the Dutch, French, English, Italian, or Chinese style, according to the fashion of the time and taste of the owners; and were ornamented with shrubs, flower-beds, urns, vases, grotto-work, pavilions, summer-houses, mazes, colonnades, arcades and greenhouses.

"The houses contained everything in the way of fine furniture that you can think of. The tables were splendidly set and served; the servants wore livery; and many people owned magnificent coaches and beautifully fitted up barges and pleasure-boats, and they also had sedan-chairs and sleighs.

"The New Yorkers went to the theatre, to concerts, balls and parties, dancing-assemblies and to entertainments at Fort George; and the men had clubs and societies. Fashionable people and the general public used to go alike to the big summer gardens, Ranelagh and Vauxhall, where they had various kinds of entertainment that included foods of all kinds, light refreshments, concerts, dancing, plays, bands of music and beautiful walks amid the illuminated trees and flowers. The evening's pleasures always ended with fireworks.

"The New Yorkers dressed handsomely and in the latest European fashions. The men with their powdered wigs, cocked hats, red-heeled shoes, glittering shoe and knee buckles, embroidered waistcoats, lace ruffles, silken coats, fine shirts, silk stockings, bunches of seals, snuff-boxes, walking-sticks and umbrellas and the ladies with their enormous hooped skirts of silk or flowered brocade, high headdresses, straw hats, gauze ribbons, ruffs, tippets and muffs of feathers or fur, lutestring cloaks, embroidered shoes, calash-bonnets, fans,

smelling-bottles, snuff and match-boxes, and jewels and lace must have looked like a swarm of brilliant butterflies.

"Are you tired?" asked Doodle.

"Not a bit!" the children answered.

"Then shall we go on?"

"Oh, do!"

"Very well then: we will. We've finished with English New York now; so let us get on to the next period."

New York During the Revolution and Later.

"English New York was not to last forever. So now comes a change. The Revolution is approaching. There were two parties at this time in America: the Tories, or Royalists, who supported the King and Parliament; and the Whigs or Rebels, who resisted their tyranny. The strife between them soon became intense; and a favorite toast of the day was 'Addition to Whigs, subtraction to Tories, multiplication to the friends of liberty and division to the enemies of America.'

"At this time a great patriotic and secret society was organized in New York, which had branches in every small town. It was called the Sons of Liberty, and the 'Sons' used to meet in the Fields or the Common and also in Montague's Tavern.

"Well, to go on. James Otis of Massachusetts called a congress of the colonists together to consider the question of resisting the Stamp Act. Nine delegates from the Thirteen Colonies met in the City Hall and the City Arms Tavern in New York; and they all agreed to return the goods to Great Britain unless the Act were repealed. While

the delegates were in session, the *Edward* arrived with some stamped paper, whereupon the vessels in the harbour lowered their colours, the bells of the city were tolled and people went about beating muffled drums for the funeral of Liberty. Presently the *Polly* came sailing in with ten packages of stamped paper, and landed at Cruger's Dock; but a body of armed men boarded her at night and carried all the paper to the ship yards in the East River and burned them in tar barrels."

"Hurrah!" cried Jack, "I wish I could have been with them!"

"In the spring the new ministry in England with William Pitt at the head, repealed the Stamp Act and a new governor was sent to New York — Sir Henry Moore — who came with every wish to make peace; but soon there was trouble between the Sons of Liberty and the soldiers, which arose because of the Liberty Pole that stood on the north side of the Common between Chambers and Warren Streets.

"And now here come the old Liberty Pole's troubles. Shall I go on?"

"Oh, do!" said Jack and Nora together.

"On June 4, 1766, on the anniversary of the King's birthday, the people had a great celebration to express their joy over the repeal of the Stamp Act. Cannon thundered and bells pealed at daybreak. Two large fat oxen were roasted on the Common, and a Liberty Pole was erected bearing the King's colours and banner with the words 'The King, Pitt, Liberty.' At night there were bonfires and illuminations.

"The soldiers at the Fort were determined to cut down the Liberty Pole and at last they succeeded in doing so. This created great excitement. Two or

View of Broadway in 1840 between Howard and Grand Streets. From a Lithograph by George Hayward.

three thousand men, principally Sons of Liberty, headed by a merchant named Isaac Sears, went to demand an explanation from the officers and soldiers and about cutting down their Tree of Liberty, and then they put up another. The soldiers cut this down and the citizens set up another; and, finally, in January, 1770, the soldiers blew this one up with gunpowder and piled up some of the pieces in front of Montague's Tavern. This was too much! Pretty nearly the whole town collected in the Commons and vowed revenge. The result was a fight. The Sons of Liberty and the people armed themselves with knives and sticks, and clubs and paving-stones and brick-bats; the bells of the city rang; the shops were closed; and the soldiers retreated to a little eminence, then named Golden Hill (now John and William Street). This happened two months before the Boston massacre. It is sometimes called the beginning of the American Revolution, and referred to as the Battle of Golden Hill.

"The Sons of Liberty then erected a stronger Pole on the Common.

"The next event was the arrival of the tea-ship — the *Nancy*. The Mohawks, a society something like the Sons of Liberty, had already destroyed the tea in Boston Harbor in December, 1773, and another society of Mohawks was waiting to receive the *Nancy*. The Sons of Liberty were ready to help; and consequently when the *Nancy* arrived in April, 1774, off Sandy Hook, the pilots would not allow her to enter the harbour. A few days later she sailed for London. The Liberty Pole was decorated; all the ships in the harbour flew their colours and every bell in the city pealed except those of the City Hall and King's College.

"The Battle of Lexington was fought on April 19, 1775. New York heard the news four days later and the flame of war was again fanned. A committee of a hundred patriots took charge of the city; companies of militia were formed; and a party of men went to the City Hall, forced the doors and procured muskets, bayonets and cartridges. Volunteers were also told to get themselves the proper regimental clothes.

"Fort George was then occupied by the Royal Irish — the 18th Regiment — commanded by Major Isaac Hamilton; and this Royal Irish regiment was soon ordered to Boston to re-inforce General Gage. New York was very dull and quiet all through the summer of 1775 and the succeeding winter.

"Early in January, 1776, General Washington sent General Charles Lee to New York to take command of the city. The first thing he did was to fortify the defences. Sir Henry Clinton arrived off Sandy Hook at the same time; but to his surprise found that he could not land.

"General Washington arrived in New York on April 14, and on July 9th he received his copy of the Declaration of Independence. At six o'clock in the afternoon he had it read to the troops. They were all drawn up on the Common in a hollow square and Washington sat on horseback in the centre, while an aide read the now famous document. When it was finished, three hearty cheers were given, the bells of the city were rung, the guns were fired and some of the soldiers and citizens went to the Bowling-Green and destroyed the Statue of George III, which had been placed there in 1770. On July 12, two British war-ships, named the *Phœnix* and the *Rose* slipped through the Narrows and sailed up

the Hudson, firing on the city as they sailed along.

"The British had possession of the city for seven years during which many incidents happened and two terrible fires occurred.

"Everybody was happy when peace was proclaimed in the autumn of 1783, and the British evacuated New York.

"As the British troops embarked at the Battery — Washington and his soldiers marched into town — down the Bowery to Chatham, to Pearl (then Queen), to Wall Street, to Cape's Tavern (the old Province Arms), where the Boreel building is now situated, and thence to Fort George.

"An American lady gives us a good picture of the scene she watched so excitedly:

"'The troops just leaving us were as if equipped for show and with their scarlet uniforms and burnished arms, made a brilliant display; the troops that marched in, on the contrary, were ill-clad and weather-beaten, and made a forlorn appearance; but then they were *our* troops, and as I looked at them, and thought upon all they had done and suffered for us, my heart and my eyes were full, and I admired and gloried in them the more because they were weather-beaten and forlorn.'

"On December 4, 1873, General Washington bade farewell to his officers in Fraunces Tavern and then he walked to Whitehall where a barge was waiting for him, to take him across the ferry on his way to Virginia.

"The first Congress met in New York in 1789 and elected General Washington President of the United States. He left *Mount Vernon* on the 16th of April of that year and arrived on the 24th. On the 30th of April he was inaugurated on the

balcony of the City Hall, now called Federal Hall, in full view of the enormous crowd. This building was on Wall and Broad Streets, but it had been entirely remodelled."

"Where did General Washington live?" asked Nora.

"For several years in a handsome house on Cherry and Franklin Streets, and in 1790 in a house in Broadway near Trinity Church; but in that year a very handsome residence was built for the President of the United States, for it was then supposed that New York would always be the capital of the country. It stood on the southeast side of Bowling-Green and they pulled down old Fort George to make room for it. It was of red brick and had columns and a portico. As the governors subsequently resided in it, it was called The Government House.

"At the beginning of the Nineteenth Century New York contained about 61,000 inhabitants. Battery Park and Broadway was the fashionable residential district and Pearl and Cortlandt Streets, the fashionable shopping district. Broadway ended at what is now Astor Place. City Hall Park was still called the Commons, or the Park; and on it stood the Almshouse, the New Bridewell, the New Jail and the Gallows. Facing the Park, was the Park Theatre. The City Hall was begun in 1803 and finished in 1812. It cost half a million of dollars, and the back was left unadorned because the New Yorkers thought the town would never grow north of it! As it stands, it is one of the handsomest buildings in America, and a splendid specimen of the style of architecture of its day.

"In 1805, there was a terrible outbreak of yellow

fever and people moved out in the country to escape it; and in 1811 a fire started in Chatham Street and wiped out about a hundred houses. Then came the war with Great Britain, which lasted from 1812 to 1815. At this period the population was about 95,000.

"After peace was declared, New York had nothing to do but to extend her trade and commerce and manufacturing, and to grow and grow and grow. Modern New York dates from about 1820.

"Broadway then had sidewalks, though it was still hilly; the old Collect, or Fresh Water Pond, was filled in; the steam-ferry boats were started after Robert Fulton took the *Clermont* up the Hudson in 1807; gas was introduced in 1825; and omnibuses in 1830 that ran on Broadway from Bowling-Green to Bleecker Street."

"How large was New York in those days, Doodle?" asked Nora.

"Do you mean how many people lived here? Well; in 1830 the population was 200,000."

"How was it New York got to be such a rich city?" asked Jack.

"It always was a rich city, dear," replied Doodle. "It was rich in the days of the old Dutch merchants; it was rich in the days of the English merchants; it weathered through the stormy days of the Revolution; and it recovered rapidly when it became the capital of the Thirteen States. One great help towards New York's enormous wealth was the opening of the Erie Canal in 1825. This joined the Great Lakes with the Atlantic seaboard and New York was the gateway, you see. When the first canal-boat, named the *Seneca Chief,* left Buffalo with a distinguished party on board, the

event was celebrated in New York; and when it arrived a few days later, the cannon boomed, the church bells pealed, and there were splendid processions, balls, illuminations and fireworks."

"How did they illuminate without electric lights?" asked Jack.

"Candles and lamps."

"They couldn't do much with those, could they?" queried Nora.

"I think they did pretty well," answered Doodle. "The City Hall was illuminated with 1,524 candles, 454 lamps and 310 variegated lamps. Then they had transparencies with views of the canal and portraits of the people who had made it and magnificent fireworks consisting of rockets, showers of stars and dragons and serpents and balls. Many houses and theatres were illuminated; and it must have been a very brilliant sight.

"The next thing that will probably interest you," continued Doodle, "was the introduction of Croton Water in 1842, when High Bridge (1,450 feet long) was built to carry the pipes over the ravine into the city. Up to that time the water was obtained from wells and from the Tea-Water Pump, on the corner of Pearl and Chatham Streets. Housekeepers sent their servants for water; or they bought it from the vendors who carried fresh water from this pump about town and sold it for a penny a gallon.

"Well; I'm not going to tell you anything about the high buildings and the elevated trains and the subways and New York of to-day, because you know all about it; but do you know that now New York is the second city in the world?"

"What is the biggest?" asked Nora.

"London."

"How many people live in New York, Doodle?" asked Jack.

"Our population was estimated last January at 2,410,250,— that is to say Manhattan Island alone; if we include Greater New York, then the population numbers 4,730,350. Isn't this a wonderful city to have grown so rapidly in three hundred years? Just let your minds jump back to the little Dutch town of New Amsterdam and then think all this has been accomplished in three hundred years!

"Now, I propose," continued Doodle, "that we go on a jaunt once a week and see our city for ourselves, visiting its museums and pleasure-grounds and enjoying to the utmost what it offers so generously to us; and I am glad that you both like the idea."

"Indeed, indeed we do!" exclaimed Nora and Jack. "Five days to wait until Monday! Oh dear!"

"There is one thing I must require," said Doodle, very solemnly. "Wherever we go, we must obey the rules and regulations. Nothing that is asked of us is unreasonable. It costs the city and societies a great deal of money to keep up these museums and parks; and a vast amount of labour is expended on the care of all the live creatures and rare objects that we shall see. The directors of all these places have given thought to the matter before making their requests; and so, wherever we go, we must conform to all their rules and heed all their warnings. In addition to this, we must observe quietly, so as not to disturb others who are enjoying the same things as ourselves; and we must not feed, or tease, or annoy the live creatures that we shall see."

"Oh, we will keep the rules! You can depend on us!" replied the children, very emphatically.

"'Nay, but swear it!'" cried Doodle, tragically, kneeling quickly on the floor with an uplifted ruler: —

> "'Upon my *sword!*
> Come hither, gentlemen,
> And lay your hands upon my sword,
> Upon my sword!'"

Jack and Nora, who had often read and played Hamlet with Doodle, obeyed, and then ran off, laughing.

"Wait a minute!" Doodle called after them, "we'll start to-morrow, if it is a fine day."

New York To-Day. View from Madison Square. Metropolitan Life Insurance Building in the centre, Flatiron Building on the right and Madison Square Tower on the left.

CHAPTER II

THE AQUARIUM

IN WHICH JACK, NORA AND DOODLE VISIT THE AQUARIUM AND SEE STRANGE CREATURES.

The day was fortunately so bright that Jack and Nora were sure that it had been woven sometime between night and dawn out of the golden sunlight and fresh breezes especially for their pleasure; so, early in the afternoon, they ran across the street to Doodle's apartment, which was opposite their own. Doodle was ready for the jaunt; but, instead of replying to their excited "Where are you going to take us?" began with the most provoking calmness as follows:

"Have you ever thought when you were sitting on the rocks at the seashore, or walking on the yellow sands, watching the sapphire waves swing and sparkle before they broke into snowy foam that you would like to walk in under those glorious billows and see all the wonders of the deep,— the coral grottoes where the sea-gods and goddesses dwell; the deep caves where the Old Man of the Sea keeps his herd of seals; the marble halls where Neptune stables his great sea-horses; the mysterious hollows where the huge sea-serpents coil; and, perhaps, surprise the mermaids combing their long glistening hair, or find St. Brandan's fairy isle, or the fabled Atlantis, or the island of Avalon, to which the three queens bore King Arthur?

"And when you were tired of searching for these

fantastic things, would you not like to see all the wonderful creatures that live in the water — the whales, the seals, the fish, the serpents, the crabs, the lobsters and all the great and little creatures that live in the caves and on the sea-weeds and sea-trees and sea-moss and sea-grasses,— in short, what we call the marine *fauna* and *flora* (animals and plants)?"

"Oh, indeed, we should," replied Jack and Nora together.

"Suppose we do then?"

"How can we? We can't get to the sea-shore to-day!"

"I don't intend to take you to the sea-shore," answered Doodle. "We are going down to the Battery in the elevated train and then walk across Battery Park to the Aquarium."

"But we've been to the Aquarium," the children protested in a very disappointed tone.

"I doubt if you can tell me what you saw there."

"Oh, yes, we can; we saw fishes swimming about in tanks and some seals in the big pools."

"Is that all?"

"Yes, but let's go again. We'd like to go *anywhere* with you. What is an Aquarium, anyway?"

"You know a great many words come from Latin," Doodle explained. "This is one of them. The Latin word *aqua* means water and *aquarium* is used to describe a tank, or collection of tanks, where water-creatures are kept as much as possible under natural conditions. Our aquarium is a very fine one; indeed there are only a few others in the whole world that can compare with it,— those in Naples, Berlin, Hamburg, Paris, Brighton in England, Washington and Bermuda."

"Are all Aquariums shaped like ours," the chil-

dren asked, as they caught sight of the peculiar brown building.

"Oh, dear no!" Doodle answered. "Ours was built for a fort,— didn't you know that? No? I shall have to tell you about it. It was built in 1807, — about a hundred years ago. At that time the shore line of Battery Park stopped at about where the Elevated Railway now runs, so this old fort, which was called Fort Clinton, was built out on Kapske Rock and was joined to the mainland by a bridge. Castle Clinton, as it was also called, was very much like Castle Williams on Governor's Island, as it was round and pierced with loop-holes through which the mouths of the guns pointed towards the sea.

"Breast-works were erected all along the water-front around the Battery Parade; and Fort Clinton was a very important defence during the war with Great Britain in 1812-1815.

"After peace was made, New York had no longer any need for a fort on the Battery; and, in 1822, the unused building was leased to some private individuals, who turned it into a place of amusement and changed its name to Castle Garden. It was used as an opera-house, a concert-hall, a sort of circus place and a reception hall for distinguished visitors.

"In 1855 it became the station for the landing of emigrants; but now instead of human beings the round building shelters strangers bearing fins and scales and spines, and instead of the strains of the orchestra and the beautiful voices of Mario and Grisi and Jenny Lind you hear the sound of many footsteps and the splash and swish of the captives in the tanks and pools.

"So now you know all about Castle Garden until it was turned into an Aquarium in 1896. In 1902, it was placed under the control of the New York Zoological Society; and people have enjoyed going there so much that since it was opened, up to 1909, there have been twenty-one millions of visitors. In one year alone — November, 1908 to November, 1909 — there were 3,739,133 who called to see the fishes.

"Well, here we are. As we enter notice that there is one great central pool on the floor surrounded by six other pools, all of which are supplied with salt water. These are used for the exhibition of large salt water animals, or fish, such as seals, sea-lions, whales, sturgeon, and special captures. Then notice ninety-four glass-fronted wall tanks in two tiers; and that the light is arranged from above and below in such a way that we seem to be standing at the bottom of the ocean, or river. The wall tanks on the south side of the building are for the salt-water fishes and those on the north side are for the fresh-water fishes."

"How many fishes do you suppose are here, Doodle?" asked Jack.

"Altogether there are about two hundred species of fish, and from three thousand to four thousand specimens of these. Many of them are native marine and fresh-water species; but there are also tropical specimens from Bermuda. It is very difficult to take care of all these different creatures; some of which require salt-water and some fresh-water."

"How do they get the water into the building?" questioned Jack.

Aquarium.—An Interior view.

"Wells sunk under the building supply the salt-water. The made ground through which it is drawn serves as a great natural filter. The water is pumped directly into the supply tanks whence it is pumped to the other tanks. The fresh-water supply is taken from the ordinary city's water supply, and is filtered before being used. Some of the tanks are supplied with extra air carried into them by means of pipes, for all fishes have to have air. "And here is another trouble: — Fishes seek colder or warmer waters by swimming at greater or less depths, or by moving into warmer or colder regions; and, therefore, the water has to be changed sometimes to suit their tastes and needs. There is a refrigerating plant for cooling fresh-water, so that the tanks of such fishes as trout, for instance, that require cool water in summer may be rendered comfortable and make them cease to long for those cool shady pools they always seek at this season of the year.

"On the other hand, the tropical and sub-tropical fishes would certainly die on the approach of winter if they had to live in the water that comes into the Aquarium unless it were heated. So there is a hot-water plant that supplies their tanks with delightfully tepid or warm water that reminds them of home.

"So you see a great many boilers, filters, a refrigerating-plant, supply tanks, pipes, and other appliances are required to take care of these creatures. Moreover, they all require constant watching and care. The tanks have to be kept scrupulously clean; the water has to be kept pure; special fishes need water of special temperature,

which must never be allowed to vary; and then they all require special feeding. Then there are special hatching-tanks and trays that have to be watched; and the sick, or moping, fish also need doctoring."

"What do they do with the sick fish?" questioned Nora, opening her large brown eyes very wide.

"They put them in the *hospital-tanks!*"

"*Hospital-tanks!*" exclaimed both children.

"Yes; I'm not joking, *hospital-tanks.* Professor Bristol, who has brought many rare fishes from Bermuda to the Aquarium with great success, tells us that:

"'Many an anxious consultation is held over fishes that refuse to eat or that develop some disease and lose their wonted vigour. This one needs a salve for some wound, that one is suffering from some fungous growth. The latter is treated by hydropathy literally; that is, if it is a fresh water fish, it is put into salt-water, and vice versa for the fungi that live in one kind of water cannot live in the other.

"'Sometimes a fish will refuse to eat for days, as did the large Moray that came from Bermuda. At one time this great eel fasted for eighteen days, and at another time for twenty-seven, thus causing its caretakers the utmost anxiety. Eagerly they study the bill of fare provided for their patients. Now a live herring is offered, now a dead one; now a soft shell clam in the shell, now a quahog[1] minced fine; and so on through the list until the fasting animal is enticed to eat. The most attractive morsel to a moping fish seems to be a strip

[1] Little neck clams.

cut from a salted codfish and manœuvered about on a long stick to give it the appearance of being alive.'

"There are also tanks in which are kept the small fishes and shrimps that are used as food for the larger fishes.

"The daily feeding of all these creatures is a great source of care and trouble. Three thousand little mouths have to be fed every day. And they have very varied tastes, too. Some fish are vegetarians; some are carnivorous,—that is they like meat; and a few are omnivorous,—that is they eat everything."

"What do the vegetarian fish eat?" asked Nora.

"Green plants and soaked cereals."

"And the carnivorous ones?" queried Jack.

"The canivorous fishes like soft shell clams alive in the shell; others turn up their snouts and noses at everything but little neck clams minced very fine; others eat live fish that they catch for themselves and won't touch anything given to them; others dote on live shrimps, or tiny crabs; others, dead fish, provided the bones are all taken out. All and each like a piece of salted codfish. Then the fish, seals, turtles, lobsters and even the tiny sea-anemones have different tastes and needs at different seasons of the year."

"Where do they get all the food for the fishes, Doodle?" asked Jack, whose interest in the Aquarium was increasing rapidly, "doesn't it take a great deal to feed them?"

"You are right, my dear. To provide for three thousand mouths a day, even if they are tiny fish mouths, is certainly no small task. The staff of the Aquarium has both to buy food and

to collect food. Naturally more market food is consumed in the winter than in the spring or summer; and most of this comes from Fulton Market. In one January the bought food consisted of 629 pounds of fish and meat and 6,600 clams. This included 316 pounds of cod; 209 pounds of herring; 88 pounds of smelt; 7 pounds of beef; and 9 pounds of liver. The meat, fish, and clams are sliced, chopped, or minced to suit the tastes of the various fishes and other creatures; and it takes one man half a day to prepare this food. A good deal of live food is kept in reserve tanks also; but notwithstanding this extra food, it costs about $100 a month to go to market for the Aquarium fishes.

"The live food brought in from the bays and shores during the summer consists of shrimps, minnows, crabs, small clams, beach-fleas and small crustacea for the Sea-Horses. Minnows are used at the rate of about a dozen quarts a day and about 15 or 20 quarts of shrimps are eaten in a week. Fiddler-crabs, stone crabs and young blue crabs are consumed by the thousands during the year; 500 or 600 marine worms a month and from 10,000 to 12,000 clams during the summer."

"What are beach-fleas, Doodle?" asked Jack.

"Perhaps you know them by the name of sand-hoppers. They are very hard to gather. Sometimes the collector picks them up at low tide, or digs them out of the sand; but the usual way is to spread a sheet on the beach and place a lantern on it. The sandhoppers come hopping and jumping on the sheet to satisfy their curiosity regarding the light, and the man gathers up the sheet by the

four corners and dumps the little creatures into a bucket.

"The Sea-Horses are very hard to provide for; for the special sea-weed, or sea-moss, on which dwells the tiny little animal that they live on, is scarce.

"After a rain, when the Battery Park walks are filled with earth-worms that have crawled out from the wet grass and soft earth, the Aquarium officials may be seen gathering up these delicious morsels that have tempted many a foolish fish to swallow the hidden hook.

"It is very necessary for the feeder to know exactly what amount of food to offer in each tank, for nothing must be left over; otherwise, the water will be rendered impure, and the fish die, of course.

"The daily menu is as follows:

"The Horned Dog-fish has to have herring; the Mud-fish, frogs and any small fish; the Carp, soaked wheat; the Sea-Horses die if they don't get their daily *Gammarids*; the Bullfrog must have tadpoles, small frogs, and little fishes; the large fishes eat minnows; and the fresh water fishes, earth-worms.

"When it comes to feeding the baby fish, you will probably laugh to think the young whitefish live on herring-roe and the baby trout and baby salmon have to be fed on minced liver and herring-roe.

"Fresh-water Turtles require chopped beef, small minnows, small bits of chopped fish and earthworms. The Green Turtles eat mullet and other local fishes and refuse from the butcher's shop. The Sea Turtles demand fresh cod, herring, clams

and beef, varied occasionally with sea-lettuce; and sometimes they like cabbage leaves.

"The Snapping Turtle insists on having a goodly supply of fishes and frogs; and, moreover, he would rob a hen roost."

"Rob a hen roost? How could he, Doodle?"

"I didn't say he could. I said he would; for he has been known to wander ashore and capture small chickens and turkeys. Now that we have taken a quick general look all around," continued Doodle after a pause, "don't you agree with me that of all strange things on our globe the things that live in the sea are the strangest? Can you imagine anything more fantastic than a Lobster or a Crab? Can you imagine any stranger beings than the Annelids, Anemones and Sponges? What do you think of a Star-fish? A Sea-Urchin? A Sea-Horse? Then please consider the infinite variety of fishes — large and small — the fresh-water fishes and the marine fishes and the deep sea fishes — their peculiar shapes, and their brilliant scales; and, then their shapes — thin and wedge-like, or flat or stodgy — their heads, their mouths, their fins, their eyes,— all adapted to their special habits of life. In some of the fishes the pectoral, or breast-fins, are highly developed for walking on the sea-bottom; some fishes have teeth; others, jaws like swords, or saws, intended for weapons of attack and defence; and some of the flat fishes have both eyes on the same side of the head, either the right or the left, but always on that side which is usually turned to the light, and colored.

"Do you know, it is a queer thing, but we find pretty nearly everything that we know on land repeated in the sea? We find Hog-fish, Dog-fish,

Cat-fish, Cow-fish, Rabbit-fish, Squirrel-fish, Toad-fish, Mutton-fish, Parrot-fish, Spotted Hind, Sea-Ravens, Sea-Robins, Trunk-fish,— and some things that we find in the sky — Moon-fish, Sun-fish, Star-fish and Angel-fish! And they are all here."

"Oh, Doodle, you are joking!"

"No; I'm not; come and see. But first let us look at the King of all Fish — the Salmon. Here is one that reminds me of the Salmon little Tom, the chimney-sweep, saw in the ocean:

"'Such a fish! shining silver from head to tail and here and there a crimson dot; with a grand hooked nose and a grand curling lip and a grand bright eye, looking round him as proudly as a king and surveying the water right and left as if it all belonged to him.'

"Before we go any further, I should like to tell you something about *Zoöphytes;* but I am going to borrow the language of a special student, who can give you a better idea than I can of this strange work of Nature:

"'The meaning of *Zoöphyte* is a living plant and the animals included in this class are so called, because, in the first place, they were for a long time considered to be vegetables; and because, secondly, a vast number of individuals are found united like flowers on a plant, by a common stem. If you go down to the beach and pick up the first object — which you suppose to be delicate sea-weed — you will probably see (with a magnifying glass) that it is an assemblage of horny cells, or hollowed vessels, on a stem of similar structure; and if the animal be alive, each cell is tenanted by a little creature of most beautiful form and most active habits. All polyps are not thus clustered, but many are,

and the distinctive characters of the class are the facts of their being *fixed*, either solitarily or in masses by a stem, and their possessing arms (tentacles) with which they seize their food.'

"There is a very curious thing about a *Zoöphyte*. It can be cut or torn into two or more pieces without either portion dying or apparently suffering in the least. Indeed, if we cut a *Zoöphyte* in two, *each piece will live and become an independent and perfect creature.*"

"That is *very* hard to believe," sighed Nora, "but I suppose I'll have to!"

"The most beautiful of all polyps, or *Zoöphytes,* are the anemones. Come and see them.

"An *Anemone* gets its name from the fancied resemblance to the flower of that name, but it is much more like a Passion-flower. When closed, the Anemone is a mass of flesh from the size of a pin's head to nearly an inch in diameter. When it spreads its arms out in all directions to get its food, it sometimes measures as much as five or six inches across. Then it is very handsome, varying from every shade of red and salmon pink, olive green with yellow or brown stripes, white, brown, grey, fleshcolour. The Bermuda varieties are very beautiful: some have a dark red body with light red tentacles; and others, an olive green body, with salmon coloured tentacles. Some look like chrysanthemums and are crimson, purple, orange or pink with hundreds of petals; others resemble puckered-up dahlias, blood-red, sea-blue striped with pink, and other colours. All are alike in one respect,—they are very greedy.

"In Bermuda, where so many of our Aquarium specimens come from, you look down through the

clear deep water into the sea-garden of the coral reefs —

'the gardens of Nereus:
Coral and sea-fan and tangle, the blooms
and the palms of the ocean.'

"The Bermuda sea-gardens are like the caves that we were reading about the other day in *Water Babies*. 'All curtained and draped with seaweeds, purple and crimson, green and brown; and strewn with soft white sand, on which the water-babies sleep every night. But, to keep the place clean and sweet, the crabs picked up all the scraps off the floor and ate them like so many monkeys; while the rocks were covered with ten thousand sea-anemones and corals and madrepores who scavenged the water all day long and kept it nice and pure. But to make up to them for having to do such nasty work, they were not left black and dirty, as poor chimney-sweeps and dustmen are. No; the fairies are more considerate and just than that; and have dressed them all in the most beautiful colours and patterns, till they look like vast flower-beds of gay blossoms.'

"We haven't any Bermuda sea-gardens here of course, but we have many strange and beautiful sea-creatures from that far-away island, the scene of Prospero's fairy isle in the *Tempest*. In such bright grottoes these brilliant butterflies of the sea are hardly noticeable as they float lazily, or dart rapidly about, according to their disposition; but here in the green water, amid stones, sand and shells, they are very noticeable.

"Most beautiful of all is the Angel-fish. Notice his wing-like fins, terminating in golden streamers,

contrasting with, or rather melting into, the turquoise blue of his scales! He floats in the water as peacefully as an angel might hover in the air, and has the irridescent gleams of a tropical butterfly. He is not angelic in disposition, however, for he will wear out any fish that comes near him by chasing it almost to death, unless he can get close enough to it to wound it fatally with the sharp spur he wears on each gill cover. The Angel-fish attains a weight of four pounds and is of a delicious flavour."

"I think he is too pretty to eat," said Nora.

"But think of his evil temper," said Doodle, as they moved to the next tank.

"The Green Parrot-fish is one of the handsomest fish found in the waters of Bermuda and the West Indies. As its flesh is thought to be poisonous, it is never used for food. Its colours are like those of a parrot, as you see, and its jaws are so strong that it chews up the shell of the shellfish on which it feeds. The Blue Parrot-fish is also very beautiful. Look at the irregular narrow markings of light blue on its head; and, see, there is a light blue spot at the base of each scale.

"Here is another bad character,— the Surgeon, who carries two little lancet-like spines in his tail; and, like many other surgeons, inflicts wounds instead of effecting cures. Isn't he a beautiful turquoise blue? He is found in Bermuda, the West Indies and on the coast from South Carolina to Florida.

"The Spotted Hind comes from Bermuda, the West Indies and the Gulf of Mexico. Look at his handsome suit of white, spotted profusely with scarlet polka dots; and see, he wears bands of

scarlet at intervals from his throat to his tail. He is quite a swell.

"The Trunk-fish and the Cow-fish are very cross and unfriendly with other kinds of fish. The Trunk-fish is triangular in form and its body is encased in shell. It grows to about eight inches in length, and is found all the way from Key West to Massachusetts, as well as in Bermuda and the West Indies. The Cow-fish is a near relative, — a first cousin. He grows as long as twenty inches and lives in the Chesapeake Bay and in the waters as far as Texas, and also on the coasts of Africa and Bermuda. He has two horn-like spines just above his eyes; and, if we get him in the right position, and look at him full in the face, he certainly deserves his name.

"Here is a peculiarly attractive visitor, also from Bermuda — the Bridefish also called Four-eyed — named from the big dark spots on the body near the tail. The pretty Squirrel-fish with his bright red body, large eyes and deeply forked tail, also comes from Bermuda. He is found, too, in the waters of the West Indies and off the Florida shore.

"Some of the fish that dwell on our own shores are brilliant, too. Here is a beauty! Look at his pectoral fins, which are so long that fishermen call them *wings;* and he is named,— what do you think? — the Sea Robin! He is one of the earliest fish to arrive on our coasts in the spring. The Sea Robin is found on our coast all the way from Cape Ann to South Carolina. Here is a Striped Sea Robin; and here is a red-winged Sea Robin: his wings, or fins, are as beautiful in colour and markings as those of a butterfly.

"Now, here is a Sea Raven: he ranges from the Chesapeake Bay to Nova Scotia. Some members of his family are orange with dark spots; others, are brick red with dark markings; and all of them have prominent eyes, heavy spines and ferocious expressions. For my part, I should think it would terrify the little fish out of their scales to see a Sea Raven dart at them through the waters. It would be enough to make them swallow their gills in fright."

"Oh; what is this!" cried Nora. "How sad he looks! How pale!"

"Didn't I tell you we should see a Moon-fish? Yes; he is pale and sad and greenish white and flat and round; and looks as if he had lost his last friend," answered Doodle.

"I think he looks as if he had never had a friend," said Nora.

"Oh, look at this queer animal!" exclaimed Jack.

"*Animal!*" snorted Nora contemptuously, with a toss of her head.

"Jack isn't so far wrong," laughed Doodle. "He is a Toad-fish!"

"*There!*" cried Jack triumphantly, his eyes gleaming. "Tell us about it, Doodle."

"Well, the Toad-fish uses that broad head and big mouth of his to burrow under rocks and stones. He has a queer habit of filling his mouth full of gravel and swimming off with it to a little distance. He repeats the performance until he has a burrow big enough to accommodate his body.

"The Miller's Thumb is another fish that burrows under the sand and gravel and hides under

stones. There he is under those little stones. Look!

"Here is a curious little fish — the Brook Stickleback. He never grows more than two and a half inches long. Mr. Stickleback is a very estimable husband and a kind father. He builds a *nest*, with water plants; and after the eggs are laid in it, guards them until they are hatched. Then he watches over the young fish until they are able to look after themselves. After that, he brings up a new family, and wouldn't know his first children from any other fishlings.

"Here is old Pumpkin Seed! He is only a common sunfish; but isn't he handsome? You find him everywhere — on the coast from Maine to Georgia, and in the streams and ponds of New England and New York. Look at that bright scarlet work on his gill covers!

"Now look at old Wall-eyed Pike! He is handsome, too, in his dark olive suit tinged with gold beautifully mottled. He is built for speed."

"Oh! anybody can see that!" said Jack.

"Here is a clumsy-looking individual,— the Sheepshead. Wait till we get him in profile! There! isn't his face like a sheep? Look at those teeth!

"But talking about teeth — here is a fish, whose teeth are so heavy and his jaws so strong that he crushes up the shells of his favourite food — the oysters. He is the Drum; and sometimes he reaches eighty pounds in weight."

"Oh! look at this one!" cried Nora. "What is he? Look! He has a double row of teeth. Oh! what a large mouth; and, look! he has got

two little fishing-rods on his head! Are those really fishing-rods?"

"Yes; they are. They are tentacles tipped with a small fleshy membrane. His nice little plan is to hide among the rocks, open his jaws and dangle these fishing-rods. Tempted by what they think is food, the smaller fish simply swims up and nibbles; but instantly Mr. Angler draws in his fishing-rod, shuts up his jaws with a snap, and down goes the bass, or porgy, into Mr. Angler's dark cavern.

"Here is the Swell-fish, or Puffer, or Blower. He rises to the surface and fills his stomach with air so that he floats, belly uppermost. The Swell-fish has a parrot-like blue beak, but no teeth. He often buries himself in the sandy bottom of the tank with only his eyes exposed; and, when disturbed, he turns dark and splotches of black appear.

"Everybody likes to look at the Sea-Horse; and indeed he is a curious little animal. He is found on our coast all the way from Cape Cod to Florida; and he seems to live all the year round in New York Bay. He varies from three to six inches in length; has a head like a horse; a body encased in a coat of mail; and a tail that *curves inward.* The latter is of very great use and comfort to him. He also has an accomplishment that *you* can never learn, and that is to use his eyes separately,— and this is also very helpful to him in securing his food. His name *Hippocampus* comes from two Greek words *hippos,* horse and *kampe,* worm or caterpillar. He has been compared to the knight of the chess-board; but what appears to be his neck, is really the back part of his stomach!

"Now here is a queer thing about Sea-Horses. If Mr. Hippocampus has a tail like a monkey, he

also has a pouch like a kangaroo. Mrs. Hippocampus places the eggs in this pouch, which is in front of his tail; and there they stay until they are fully hatched. Owing to the peculiar shape of its tail, the Hippocampus cannot move very quickly. Its position is usually vertical; the body is held nearly erect with the tail wound round the stem of a plant, or a weed, or a stick, or little stone. The Sea-Horse always swims in this erect position and its motions are very slow, except for the dorsal fin — that is the back fin — and pectorals — or breast-fins — which are rapidly moved.

" Mr. Gill, who has studied the Sea-Horse very carefully, says that:

" ' The body may be thrown outward at various angles and even downward, and the tail wound around a plant in a double coil. Once in a while one eye may roll toward you, while another may be passive, or look backward, or in an opposite direction. It becomes obvious that the little fish can move its eyes independently of each other and in entirely different ways. A comical effect is produced by the way in which the little fishes peer at some object, reminding one of the actions of a very near-sighted person. Releasing itself at length from its support, one may slowly progress, still in a vertical position, its tail curved inward, its dorsal fin rapidly undulating and reminding one of a screw-propeller, its pectorals vibrating in harmony.'

" These peculiar little creatures are said to make faint sounds. As it is a defenceless little thing, Nature allows it to look like the sea-weed among which it conceals itself and in waters where the sea-weeds and *Zoöphytes* (you know now what *Zoöphytes* are), are bright, it assumes these hues of

red, pink or yellow. As a rule, it is light brown, or speckled.

"Its mode of feeding is strange,— and it generally *is* feeding. It lives on tiny crustaceans such as sand-fleas which it finds on the sea-moss. It moves slowly toward the weed, brings its mouth up to the food it sees there, inflates its cheeks,— and captures the little crustacean. The latter has to be perfectly motionless on the ground or plant, because the Sea-Horse is too slow to get it if it is moving; but, *it must be alive.* No dead food for him! Perhaps you have noticed that all the officials of the Aquarium wear the figure of a gold sea-horse in their caps as a badge.

"The Pipe-fish is another curious creature, with a long pipe-like snout. Owing to the way he stands on his head and tumbles about, people have compared him to a *clown.*

"You know lobsters and crabs very well; but the Hermit Crab is a peculiar individual. He has no shell on his body, and, therefore, he has to find some protection for himself. He goes off house-hunting and when he finds an empty shell that suits him exactly, he takes possession of it. He has two small hooks at the end of his body and with these he catches hold of one of the spirals of the shell which he intends to occupy; and as his body is more like that of a worm than a crab, he is able to squirm into the spiral shell and fit himself into its coils. When he outgrows this shell, he has to hunt for a new house; and so he crawls out of his old quarters and goes off house-hunting again. An observer who has seen the hermit-crab hunting for a new residence says: 'When a hermit desires to change his habitation he goes through a series of

Sea-Horses.

performances, which, if he had hands, we should be disposed to call manipulations. A shell lies on the ground and the hermit seizes it with his claws and feet, twists it about with wonderful dexterity, as if testing its weight; and having examined every portion of its exterior, he proceeds to satisfy himself about the interior. For this purpose, he pushes his fore legs as far into the shell as they will reach, and probes, with their assistance, every spot that can be touched. If this examination satisfies him, he whisks himself into the shell with such rapidity that he seems to have been acted upon by a spring.'

" He is a terrible fighter and when he meets one of his fellows, a big battle takes place. They roll over each other like two dogs and use their claws with great violence.

" The King Crab has been also called the Horse-foot and the Sauce-pan on account of its shape. It is a slow, stupid thing, burrows below the surface of the sand or mud, and is found on the coast from Maine to Florida.

" The oysters, clams, mussels, scallops, winkles, razor-shells, drills, pear-conch, natica and others belong to the family of *Mollusks.* Many of them burrow in the sand. Here is another peculiar group — the *Echinoderms,* which includes the Sea Urchin a little pin-cushion with purple spines; the curious Sand-Dollar which moves by means of its spines or bristles, and the Star-Fish, which has five flexible arms, and strange to say, if one of these is torn, it can reproduce itself in the water again and become a perfect Star-Fish! The Star-Fish feeds on oysters and mussels and he doesn't need anybody to open the shells for him either. The Drill has a good way

too of eating an oyster; he *bores* a hole through the shell and then sucks out the contents.

"Now let us look at the *Annelids.* This Tube-worm makes a conical, slightly curved tube of grains of sand in a single layer, held together by a kind of water-proof cement that he makes himself. This relative of his called *Serpula* and this one, called *Sabella,* also make tubes in which they live. They are regular worms and have feather-like gills. Serpula lives in colonies and likes to attach himself to a shell. When everything is quiet he sticks out of the tube a curious piece of himself shaped like a trumpet and then two bright combs which he uses to secure his food. But on the slightest movement or disturbance, he whisks these gills back into the tube.

"I think if we look at this green Moray, we can believe in the stories of sea-serpents. He lives in the tropical and sub-tropical waters of the Atlantic and Pacific Oceans and is very plentiful about the rocks and coral reefs. He is very ferocious; and when caught, puts up a big fight. Both of his jaws are furnished with sharp teeth, which incline backward towards his throat. His breathing is peculiar. Watch him. See; he opens his mouth quite wide, taking in a quantity of water which distends the throat and cheeks. Now see; his mouth closes; the throat and cheeks are contracted; and the water is forced out through the little round gill openings. The green Moray has been known to reach a length of twelve to fifteen feet; so I think he makes a pretty fair kind of sea-serpent."

"Ugh!" exclaimed Nora, "I think he is horrid. I can't bear to look at him."

"Now let us take a look at the West Indian seals," continued Doodle. "They are very rare, and are, perhaps, the most valuable of all the exhibits in the Aquarium. These three seals are the only ones of their kind on exhibition anywhere; and may be the last that will ever be seen in captivity, for they are nearly extinct. We must be careful, however, for the big one often throws a flipper full of water in the faces of his visitors. One queer thing about the seal is that when it dives, it closes its nostrils and ears. It uses it front flippers to swim, to move itself about on the land and to climb rocks. Its hind flippers it uses like the screws of a ship to push itself through the water at great speed.

"Some people say that the seal is responsible for the idea of the mermaid,— that when sailors saw it lying on the mist-wreathed rocks, far out in the sea, it suggested the figure of a woman; but for my part, I think some of the creatures we have seen to-day are just as strange as mermaids and mermen."

"I should like to go and find out if there are any," said Jack.

"Well; you can never do *that,*" said Nora, emphatically.

"Don't be too sure," replied Doodle. "It is not impossible. In fact, an Italian gentleman, Signor Pino, has invented a submarine boat that can be lowered from a larger boat to any depth in the water; and when it reaches the bottom of the ocean, it can be made to move along by means of a wheel propelled by a screw driven by electricity."

"Oh tell us about it. Has he ever been down himself?"

"Many times. Hundreds of times!"

"What does he say it is like down there?"

"Well, for one thing, he says it is always light under the water; and for another thing, that when down below the waves a man has no more sense of being submerged in the water than he has on the earth of being drowned in the air!"

"What is it like?"

"Signor Pino says that the bottom of the sea is covered with something that looks like ashes and also light mud, and that sand is rarely found. At a certain level the sand stops and the action of storms is unknown. He reports that it is perfectly beautiful in the ocean-gardens, where he has found trees and shrubs like pines and firs and cypresses and plants and weeds of the most gorgeous colours you can imagine."

"What is his boat like?"

"Shaped like a cannon ball and made of steel with a funnel at the top. It is supplied with windows made of a special kind of glass through which the navigator can see everything that is going on around him. Air is pumped in from the boat above, and a telephone is also connected with this boat.

"Another thing that Signor Pino has invented is a Hydroscope. This is an instrument that enables one to see clearly and distinctly any object in the water down to the bed of the sea — to any depth, in fact. He can also take photographs of whatever he perceives there. Signor Pino thinks that some day in the near future people will take a pleasure trip in a submarine boat like his to see the ocean-gardens just as they go now for a drive in an automobile, or as they will go some day in an air-ship. I, myself, would just as leave dive into

The Mall. Northern End.

the water as fly through the air. But we had better think of flying home; for, see! they are about to close the doors."

"And some one came to me and said
The little fishes are in bed,"

quoted Jack, laughing.

"But they won't let you wake them up again," said Nora, "even if you were to bring a corkscrew and a teakettle, like Humpty Dumpty."

"And when you found the door was shut
You tried to turn the handle,— but —"

continued Doodle,—"but we had better be on the other side of the door. Come on."

CHAPTER III

CENTRAL PARK

IN WHICH DOODLE, JACK, AND NORA EXPLORE CENTRAL PARK.

1. From Fifth Avenue and Fifty-ninth Street to the Old Reservoir.

"Do you mean to spend the whole day with us?" Nora and Jack exclaimed as they rushed into Doodle's study breathless with excitement. "We got your message and mother sent us over. She said we could come just as we were; we needn't stop to dress; and so we picked up our coats and hats; and here we are. Come on! Where are we going?"

"Suppose we go to Central Park to-day,— what do you say?"

"Oh, we're so tired of going to the Park; we've been there so often. Can't we go to see the fishes again?"

"I doubt if you do know the Park," Doodle began; but Nora and Jack interrupted with —

"Why, we've been going there all our lives. We rode the donkeys when we were babies and we have been everywhere: we've rowed on the Lake and we've had picnics on the grass and rocks; and we've played in the snow; and last summer mother took us to lunch at the Casino. Oh, yes! we know the

Park. Please take us somewhere that we have never been, instead."

"Well, as I was saying, I don't believe you *know* the Park. Can you tell me how to find the Lily Pond?"

"Why no!"

"Do you know where the Block House is?"

They shook their heads.

"Can you take me to McGowan's Pass Tavern?"

They looked blank.

"Do you know where Harlem Mere is?"

"No!"

"Well, then suppose we start out on an expedition!"

Before they started, Doodle told them all about Central Park; that it is two and half miles long and half a mile wide; but it seems even larger on account of the many winding drives, roads and walks; that there are nine miles of carriage-drives, six miles of bridle-paths, many of which are sunken, and thirty miles of walks; that there are thirty-six bridges, or archways, nineteen entrances and twelve tunnels; that there are seats for ten-thousand persons, many of which are in vine-covered arbours; that altogether the Park contains about 843 acres, of which 286 are occupied by lakes and reservoirs.

"How much is an acre, Doodle?" asked Nora.

"Well, I hardly know how to tell you," replied Doodle. "Let me see: Madison Square is about seven acres and Union Square is about three and a half acres. Central Park, then, is about a hundred and twenty times as big as Madison Square and two hundred and forty times as big as Union Square.

"Our Park is a very young park," Doodle went on to explain, for the children were now listening in-

tently. "It is only a little more than sixty years old. In 1851 the citizens of New York began to take steps to make a park, or pleasure-ground, and selected the tract of land bounded by Fifth and Eighth Avenues and reaching from Fifty-ninth to One Hundred and Sixth Street. The work was finished in 1855, and the land valued at $5,398,695. Soon afterwards the State Arsenal and grounds were purchased for $275,000, and added to the Park. You know the Arsenal? It is the old Menagerie building.

"I wonder what Peter Minuit would think of such a price, when he bought the whole Island of Manhattan, as I told you, for twenty-four dollars! In 1859, the boundary was extended to One Hundred and Tenth Street; and in 1864, Manhattan Square, a space of nineteen acres near Seventy-first and Eighty-first Streets and Eighth Avenue, was included.

"You have no idea what a great work it was to turn this barren wilderness of dreary rocks, swampy valleys and stagnant fens into the sylvan spot you know, or rather that you *don't know*. We are told that 'It was for the most part a succession of stone-quarries, interspersed with pestiferous swamps. The entire ground was the refuge of about five thousand squatters, dwelling in rude huts of their own construction, and living off the refuse of the city which they daily conveyed in small carts, chiefly drawn by dogs from the lower part of the city through Fifth Avenue (then a dirt road running over hills and hollows). This refuse they divided among themselves and a hundred thousand domestic animals and fowls, reserving the bones for the bone-boiling establishment situated within

the area. Horses, cows, swine, goats, dogs, cats, geese and chickens swarmed everywhere, destroying what little verdure they found. Even the roots in the ground were exterminated until the rocks were laid bare, giving an air of utter desolation to the scene, made more repulsive from the odours of the decaying organic matter which accumulated in the beds of the old watercourses that ramified the surface in all directions, broadening out into reeking swamps wherever their channels were intercepted. These people who had thus over-run and occupied the territory were principally of foreign birth, with but very little knowledge of the English language and with very little respect for the law. Like the ancient Gauls, they wanted land to live on, and they took it; and, like the Gauls, they prepared to defend their occupancy at the very suggestion of its invasion; no matter by whom. Such was the danger of the situation that the designer of the Park was compelled to go armed while making his studies, and, in addition to this, to carry an ample supply of deodorizers.'

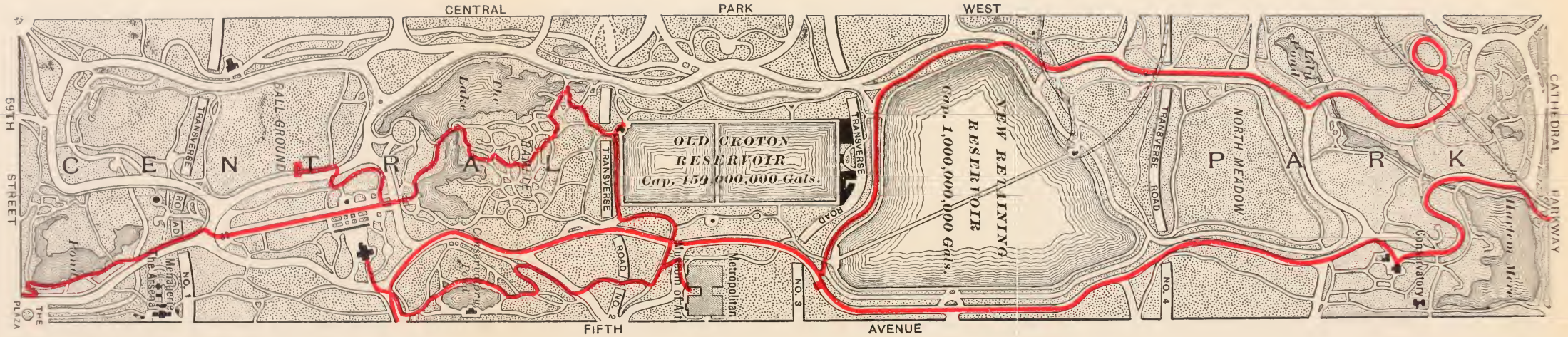
"It was a great task to alter and beautify such a desert. Wisely enough the designers left much of the natural rock, which forms a distinctive feature of the Park; and then they scooped out valleys and ravines, planted long stretches of grassy sward, drained the marshes and converted them into lakes and ponds, and left what native trees they could and planted many others from far-away states and foreign countries. Carriage-drives, bridle-paths and winding walks they had to devise before they embellished every nook and corner with flowering trees and shrubs. As early as 1862, the Menagerie was started. The animals were housed in the Arsenal,

while a little deer-park was situated on the site now occupied by the Metropolitan Museum of Art. People soon began to take interest in the Park and many gifts were bestowed upon it,— particularly statues.

"The first gift was the bronze bust of Schiller, presented by the German residents in 1859 and which is placed in the Ramble, and the second one was the large bronze bust of the German traveller, Humboldt, which they gave in 1869. Among the others are a statue of Professor Morse, the inventor of the telegraph, near the Fifth Avenue and Seventy-second Street entrance; an enormous bust of the Italian revolutionist, Mazzini, on the West Drive near Seventy-second Street; a bronze statue of Daniel Webster, not far away from Mazzini; a statue of Alexander Hamilton on the East Drive northwest of the Metropolitan Museum; and several statues and busts in the Mall. Besides these, we must look for the Soldier of the Seventh Regiment, commemorating the soldiers who lost their lives in the Civil War, on the West Drive near Mazzini's bust; the Pilgrim, in memory of the Landing of the Pilgrim Fathers on Plymouth Rock in 1620, standing near the Lake, where the roadway crosses the Eastern Drive; the Eagles and Goat, east of the Mall; the Falconer, not far from Webster's statue; the Tigress and Young, west of the Terrace; and the Still Hunt, not far from the Obelisk overlooking the East Drive."

"Doodle," asked Jack, "why are the entrances to the Park called 'Gates,' and there are no gates?"

"The original idea was to build nineteen decorative gates; and like the White Queen in *Alice in the Looking Glass,* who used to scream before anything happened, the Park people named the gates



Map of Central Park. The red line shows the itinerary.

before they were erected. I wonder if I can name them all:

"The Fifth Avenue Gates are the Scholars' at Fifty-ninth Street; College Gate at Sixty-seventh; the Childrens' at Seventy-second; the Miners' at Seventy-ninth; the Engineers' at Ninetieth; the Woodmen's at Ninety-sixth; the Girls' at One Hundred and Second; and the Pioneers' at One Hundred and Tenth. There are two Sixth Avenue Gates — the Artists', at Fifty-ninth Street, and the Farmers' at One Hundred and Tenth. Seventh Avenue also has but two — the Artisans' at Fifty-ninth Street and the Warriors' at One Hundred and Tenth. The Eighth Avenue Gates are the Merchants' at Fifty-ninth Street; the Women's at Seventy-second; the Hunters' at Seventy-ninth; the Mariners' at Eighty-fifth; the Gate of All Saints at Ninety-sixth; the Boys' at One Hundredth; and the Strangers' at One Hundred and Tenth Street."

Doodle then told them as they walked along that the most attractive features in the Park are the trees and flowering shrubs, and that it would require a long long time to learn all the varieties of the ordinary trees that are there. For instance, there are fifteen different kinds of elms; nineteen of maples; fourteen of birches; thirteen of oaks; ten of the cherry; nine of the willow; nine of the pine; eight of the hickory; and six of the yew; that altogether there are more than a million and a half trees and shrubs; and besides, there are many choice varieties from foreign countries, most of which are labelled.

"Many of the trees you know," continued Doodle, "cypress trees and cedar trees, larches, firs and pines; the oaks and elms; walnuts, chestnuts,

butternuts, poplars, beeches, birches and lindens; aspens that tremble with the slightest breeze; cottonwoods, honey-locust, ailanthus, alders, mountain-ash, catalpas, willows, sycamores and persimmons,— all of these you know; I am sure you do.

"I doubt, however, if you have ever noticed the lovely English hawthorns that blossom in masses of pink and white in the early spring; and I am certain that you could not pick out the Kentucky Coffee Tree; the Smoke Tree; the Silver Bell; the Japanese Quince; the Japan Pagoda; the Japan Lemon; the Japan Cedar; the Cucumber Tree; the Chinese Golden Larch; the Deodar; the Cedar of Lebanon; the Chinese Cork; the Double Flowering Chinese Crab Apple; the Mahaleb Cherry; or the Gingko Tree? Now, could you?"

By this time they had reached the Plaza, the chief entrance to the Park at Fifth Avenue and Fifty-ninth Street and they had stopped to look at the impressive equestrian statue of General Sherman, preceded by Victory, that faces Fifth Avenue, by the American sculptor, Saint Gaudens.

"If we could take a bird's eye view of the Park," said Doodle, "we would see that we are standing at the beginning of the big Drive, which leads to the Mall. Turning off to the east it is called East Drive and turning off to the west, it is called West Drive. Both roads unite and form one big circle around the New Reservoir. We are going to stroll now from the Fifty-ninth street entrance along the path by the Drive a little way and then past the Pond.

"Well, there's the Pond — about five acres of it. Let us walk along beside it. How picturesque

Bethesda Fountain and the Lake.

it is! And see the swans and water-birds. Here we can turn to the right and reach the East Drive. By bearing to the right again we might reach the Menagerie, where some of the animals are housed, and the Arsenal."

"Are we going to see the animals?"

"No, Jack, I think not, for we are going to the Zoological Park soon. Let us follow the Drive till we reach the Mall."

After a little the path turned to the left. In front of them was a road.

"Now, if we cross the road, we shall be there.

"What a promenade the Mall is — wide and beautiful, arched by its double row of American elms beneath which are seats and statues of famous men, as you see. There is the statue of Shakespeare; there is Robert Burns; there is Sir Walter Scott; and there, farther along on the right, is Fitz-Greene Halleck, a New York poet of the early Nineteenth Century."

Continuing their walk, they approached the northern end of the Mall. On their way they passed some children riding in little carriages drawn by goats.

"You see," said Doodle, "we are now in the midst of the amusements. We are not very far from the Carousel with the swings and merry-go-rounds; and, if you like, Jack, you and Nora can have a drive in one of these carriages."

"I don't ride in goat-carriages," said Nora haughtily.

"No, she's waiting to ride on the big elephant in the Zoological Park. She's crazy to ride on Gunda," said Jack.

"So are you," retorted Nora. "You said so

this morning; you said you hoped Doodle would take us to the Zoological Park to-day, so that we could ride on Gunda."

"I know I did," replied Jack, "and I did, and — Oh, Doodle *won't* you take us to the Zoological Park next? Please darling, dear Doodle."

"Oh do!" begged Nora.

"We'll see," Doodle answered; "but here we are close to the Marble Arch over the sunken pathway. On our left is the Music Pavilion, where concerts are given in the summer. Near this stands the colossal bust of Beethoven with a figure of Music on the pedestal below.

"And here on the left, between the walk and the road on our way to the Terrace there stood until very recently, English oak known as the Prince of Wales's Oak. This was long the most famous tree in the Park, for it was planted by King Edward in 1861, when he was travelling through the country, and it died last spring shortly before he did.

"How lovely it is here. Spring has waved her magic wand and the first warm touch of the sun has quickened everything into life. The Forsythia is joyfully ringing its yellow bells, the spice bushes are bursting out in a mass of yellow blooms; the snow-white Bridalwreath is filling the air with its delicious scent; the honeysuckle, too, is sweet on the air; the Japanese Lemon tree displays its flowers of whipped cream; and the privet is scattering incense from its white blossoms. Here the tulip-tree is holding up its pink and white cups to be filled with sunlight; over there, the Judas-tree flushes pink and the Dogwood stretches out its snowy boughs among the other trees; here is blooming Linden tree, sweetly fragrant; over there

a group of Magnolias are bursting their white buds; here is a mass of pink and white Cherry trees (how beautiful they are!) and over there is an English hawthorn foaming with blossoms. We also see, crowning the rising ground at the north end of the Mall on the right, a great purple mist. What can it be? Nothing in the world but clusters of Wistaria that have completely covered the pergola. And behind the pergola, across a road, is the restaurant known as the Casino. But enough talk of flowers, and trees, and flowering shrubs, and pergolas. Come along and let us take a few steps more."

They now reached the road at the north end of the Mall. Doodle led the way across it:

"Now we have come to the Terrace at which the Mall ends. This is one of the most admired places in the Park. You see it is built of yellow-tinted stone, delicately carved with birds, animals, fruits and flowers. The central stairway leads down beneath the roadway, while the two wide flights of steps on each side descend to the Esplanade that extends to the Lake. Vases of blooming plants decorate the balustrade at intervals, and here is the large bronze Bethesda Fountain, representing an angel blessing the waters."

"What for?" inquired Nora.

"Jack will tell you," Doodle answered.

"I don't know," said Jack. "You'll have to tell us."

"Once there was a pool in Jerusalem near the sheep market, called Bethesda, famous for its healing waters; for at certain times an angel came and 'troubled the waters,' as the Bible says, and then whoever was the first to step into the pool after

the angel had caused the waters to move was cured of his disease; and, therefore, a multitude of blind, lame persons afflicted with every kind of illness gathered there in great numbers to wait for the angel's appearance."

"Where did the angel come from, and was it a man or a woman?"

"I don't know," said Doodle. "Let us look at this one anyhow, which was designed by an American woman sculptor, Miss Emma Stebbins, of New York. The angel is eight feet high, holds a bunch of lilies — emblems of purity — in one hand, and seems to have just alighted on the rocks from which the water flows. The small figures below the upper basin are Purity, Temperance, Health and Peace."

For some time they enjoyed this pretty view of the Terrace, leading directly to the Lake, which covers twenty acres, and which is always gay in summer with boats and at intervals in winter with skaters. Here in spring and summer there is a mass of flowers and blossoming shrubs such as roses, honeysuckle, wistaria, rhododendrons and azaleas; in the summer, hydrangeas and lilies, plume-like grasses and the tall yucca with its staff of white bells make the spot charming while the basin of the fountain is usually aglow with pink and purple lotus flowers. Perhaps it is still more beautiful in the autumn when the trees are turning and display every shade of lemon, orange, red, pink and purple.

Resuming their walk and going south, they soon reached the Ball Ground. Now they were on the West side of the Park.

"What fine large trees are here!" exclaimed

Doodle. "That big rock in the distance is called Umpire Rock. Very often at certain times of the day it assumes a purplish hue which contrasts beautifully with the green grass and the trees. How nice it is to hear the leaves rustle above us, and watch the flickering shadows! And what sport the boys and girls have here — merry, laughing crowds!

"South of this Ball Ground is the Green or Common, of sixteen acres, where the red flag fluttering from the tall pole is the signal that everybody is free to walk on the grass. The flock of sheep is pastured there and what crowds go there to enjoy themselves on Sunday afternoons in the summer! Well, we have gone far enough. Let us retrace our steps to the Terrace. And from there, we will make for the bridge that crosses the Lake — Bow Bridge, it is called, and it is the prettiest bridge in the park. It spans a narrow strait of the lake."

Bow Bridge reached, Doodle continued:

"Let us stop here and look at the boats and the swans. This is the place to see the swans. Aren't they graceful! How softly they drop into the water! How gently and yet with what a grand air they push off to 'float double, swan and shadow' on the clear water!

"The swans of Central Park are no upstart birds, I can assure you. The old ones can tell their little cygnets stories of how their stately ancestors used to float and swim over the blue Alster lakes at Hamburg and on the silvery Thames. In 1860 twelve fine swans were sent to the Park as a present from the city of Hamburg; and, when nine died soon after their arrival, more were sent. Not long afterwards the Vintners' Company of London

sent twelve pairs and the Dyers' Company, thirteen pairs, from the Thames. The Thames swans are famous. In England, the swan is a royal bird; and all stray swans not identified belong to the Crown. The bills of the birds are always nicked, therefore, and the swan-nicking, which takes place in the spring, is quite an exciting season for the little birds. The swan-mark is cut in the upper mandible.

"In olden times the King's Swan-keeper was a very important personage. The male swan is called a Cob and the female swan, a Pen, and it is the Cob that sits up so proudly on the water. Mrs. Swan swims much lower than her noble spouse. The swan's nest is a great mass of rushes, reeds, flags and coarse water-side plants, pitched on the ground near the water. The Pen lays six or seven greenish white eggs and it takes six weeks to hatch them; and during that time the Cob keeps guard against all invaders and often sits on the nest to give Mrs. Swan a rest. The little ones are not very handsome. You remember the Hans Andersen's story of the *Ugly Duckling,* don't you?"

"I do," said Jack.

"I don't," said Nora.

"No, you don't know it, Nora, Doodle read it to me the day you were in bed with that bad sore throat," Jack explained.

"I'll have to read it again then," answered Doodle, "and we'll also read Mrs. Browning's beautiful *Romance of a Swan's Nest,* if you will remind me."

"Is that the one that begins 'Little Ellie sits alone,'" said Nora, who was very fond of poetry, "I love that."

"I think the swans and other aquatic birds seem to enjoy midsummer more than any other time of the year, for the reeds and grasses are so high and so full of insects. They can always have a nice salad. They love to hide in the greenery of the banks and islands as much as they enjoy sailing on the cool waters of the lake and pond.

"Let us cross the bridge now," continued Doodle, "and stroll about the Ramble."

"Talking about birds," Doodle continued, "somebody gave the Park, in 1864, a present of seven pairs of English sparrows; and they proved a very unfortunate gift. These birds bred so fast and are so cross to other birds and are such hot little fighters and generally so hard to live with, that they have driven nearly all of our native birds away. They haven't, however, disturbed the hundreds of squirrels that are so tame and yet so lively."

By this time they had crossed the bridge. A few rods of walking up a little slope and to the right and the party was deep in this, in some respects, the most delightful part of the Park, and Doodle went on:

"Here we find winding paths, pretty little bridges, shady nooks, unexpected thickets, steps cut into the rocks, cool, shady dells, sparkling streams and tiny cascades tinkling over mossy rocks. Every inch of ground has been so skilfully used that the Ramble seems much larger than it really is: it is quite wild enough to suggest the woods. Let us try to find the bust of Schiller that I told you about."

After wandering about a little they finally discovered the effigy of the great German poet.

"Here he is at last," exclaimed Doodle, "and

very secluded, too. And what do you think of Schiller?"

Nora declared that the poet looked very lonely in that out-of-the-way place, half buried in the trees and shrubs.

The Ramble was very charming in its spring attire for so many shrubs were on the point of blooming while others were quite advanced. After leaving Schiller, they climbed the steep little hill and soon reached the Cave.

"Here is the Cave," said Doodle. "We will go down the steps cut in the rock and go through. How dark and damp and dismal it is!"

"It makes me think of ogres and robbers," said Jack.

"I don't like it," Nora half whispered, taking hold of Doodle's hand.

"Now that we have come out, there, just to the north, is the Belvedere," said Doodle. "If we like we can climb to the top of the tower, and get a fine view of the Park and the City."

No sooner said than done.

"We are now in the highest part of the Park. This blue water to the north of us is the Old Reservoir."

After enjoying the fine prospect, they descended the Belvedere's stone stairs, and stood upon the platform.

"We can leave the Park here by the Mariners' Gate at Eighty-fifth Street and Eighth Avenue," said Doodle, "or, we can go east by the lovely little shaded lawn, lined with graceful trees and shrubs, that runs between the Reservoir and Transverse Road No. 3. Turn about facing the south! Now

on our left, is the path that will lead us to something worth seeing."

A short walk brought them to the great monolith.

"See! On that knoll stands the Obelisk, and a little beyond it, the Metropolitan Museum.

"Look at that tall shaft of red granite, seventy feet high, with reverence, for it is nearly three thousand, five hundred years old! You are looking at something that Moses may have gazed upon. Solon and Plato, two of the wisest men of Greece, certainly saw it, for they studied in the famous college of priests in the city of Heliopolis, where it was set up with its companion in 1650 B. C., more than three thousand years ago, by Thothmes, the Third, King, or Pharaoh, of Egypt. Heliopolis was the city of the Sun whom the Egyptians worshipped as the god Ra."

"What kind of a city is Heliopolis, Doodle?" asked Jack.

"There is no Heliopolis now," Doodle replied, "nothing but some blocks of stone and one enormous obelisk,— one of the oldest in Egypt."

"What is an obelisk, Doodle?" asked Jack.

"You are looking at one," was the answer, "an Egyptian shaft, or column, covered with inscriptions. The name is Greek and means roasting-spit, for when the Greeks went to Egypt and saw these peculiar monuments they described them as skewers, or roasting-spits. The Egyptians called this kind of shaft *tekhen,* but nobody knows what that word means.

"Our obelisk and its companion were more than a thousand years old when Augustus Cæsar took them to Alexandria in the year 22 or 23 B. C. It

was not very far to go, but it must have been a task to move them. In Alexandria they became known as Cleopatra's Needles and the name still clings to them. When George IV. became King of England in 1820, the Egyptians gave one of them to him for a present, and this now stands on the Thames Embankment.

"Ours was a present from the Khedive of Egypt in 1879. The great question was how to get it here. Mr. William H. Vanderbilt gave the necessary money to bring it. The great question was *how* to get it here, because it was so tall and so heavy," Doodle repeated.

"How much does it weigh?" asked Jack.

"Four hundred and forty thousand pounds."

"Whew!" exclaimed Jack.

"Whew!" echoed Nora.

"How did they manage?" asked Jack.

"Lieutenant-Commander Gorringe, who was given charge of the whole matter, had made in this country under his orders, special machinery which he took to Alexandria. This was put up there, and the great stone was lifted from its pedestal without any harm. Then a steamer, the *Dessoug,* was bought for its passage, and Cleopatra's Needle was encased in oak-planks and then put into the hull of the boat. The *Dessoug* left Alexandria in June, 1880, and arrived here in July; but it was not until the next January that the obelisk was set up and dedicated. The reason we know so much about our obelisk is that on the claws of those bronze crabs that you see at the base, the Greek engineer who put up the obelisk in Alexandria nineteen hundred odd years ago inscribed his name and the date."

Baseball in Central Park — a Summer Saturday Afternoon.

"Why did he choose crabs, Doodle?" asked Nora.

"Only for ornament. He supported the obelisk on metal rods, and these were passed through the bodies of bronze crabs for the sake of ornament."

"Does anybody know what the writing on the obelisk means?" Nora inquired.

"Yes. There are two inscriptions: one refers to Thothmes the Third, and the other to Rameses the Second; both are complimentary. Each king calls himself 'beloved of the Sun-god Ra,' whom he considers as his father; and he calls Egypt, over which he reigns, the greatest of all kingdoms.

"I wonder what the Obelisk thinks of the New World; if it ever longs for the sands of the desert, the broken columns lying on the ground, the palm-trees and the sunsets on the Nile; and if the rays of Ra, to whom it is dedicated, ever warm it as they did in the land of the Sphinx and the Pyramids! One thing we do know,— and that is that the hieroglyphs have suffered from our climate which is too severe for it. There is one peculiar thing about hieroglyphs that I didn't tell you: you have to read them downwards instead of across."

The three now walked south through the pretty glade, until they reached Conservatory Pond, where they found a distinguished company of little sailors gathered together, intent on sailing their boats.

"I doubt," remarked Doodle, "if so many admirals and captains were ever seen together as come here daily with their nurses to launch their crafts on perilous voyages. Shall we stop and look at them?"

"I used to come here," said Jack, "with my little

boat — the *Phyllis;* and once she sailed away from me to the middle of the Pond; and I cried — I was so silly — and a big boy got her for me."

"I was with you," said Doodle. "I remember perfectly. Now we will go south, up the hill, over the Drive and go to the Casino. There we will have some lunch; and then we will explore the upper part of the Park. How does that strike you?"

"Fine!" exclaimed Jack.

"Fine!" echoed Nora.

"What do you think of Central Park now?" asked Doodle, after they were comfortably seated and had ordered their luncheon. "Do you like it, well enough to see the rest of it or shall we go home?"

"Oh, we don't want to go home," they both exclaimed.

"Then we will call a taxicab and drive around the upper part of the Park after lunch."

2. From the Old Reservoir North.

After luncheon they called the taxicab and started off, much refreshed and ready for exploring the upper part of the Park, north of the Old Reservoir, which was very unfamiliar to the children.

Flying up the East Drive they again passed the Metropolitan Museum and the Obelisk, which had a new interest for them, and came to the big Reservoir that occupies a hundred and nine acres and extends almost the entire width of the Park from Fifth to Eighth Avenue and from Eighty-seventh to Ninety-sixth Streets. They enjoyed seeing the other cabs and carriages and the occasional horseback riders galloping along the Bridle Path that

also encircles this big sheet of water. Their cab swept round to the left and then took them along the West Drive. On their right lay the big North Meadow, the grassy lawn of nineteen acres where picnic and May-parties enjoy themselves in perfect freedom, and beyond the North Meadow and on their left the pretty Lily Pond near the entrance of Eighth Avenue and One Hundredth Street.

From the Lily Pond, they flew up the West Drive and around the circle at the top of the hill — the Concourse. As the cab whirled about here Doodle explained that they were looking upon historic ground. North of them were both Washington Heights and Harlem Heights, famous in the strife between the American and the British soldiers.

"Let us leave the cab here," said Doodle, telling the chauffeur to await them at the gate at One Hundred and Tenth Street and Lenox Avenue.

"Now we will find the Block House," said Doodle. "It lies to the east and north across the drive."

Walking in the direction named they soon approached, through the trees and underbrush, the rising ground. On a hill top before them, with a precipitous fall of great ragged rocks to the east of it, and with rocky approaches on the other three sides, stood the old, four-square Block House, from the loopholes and top of which a raking fire would have done desperate execution among any band of Redcoats that might have ventured to storm it.

"What is it for, and why was it built?" queried Jack.

Doodle, by way of reply, pointed to a bronze tablet over the massive iron door on the west wall, on which was inscribed:

"This blockhouse was part of a line of fortifications extending from the Hudson to the Harlem River built for the defence of New York by its patriotic citizens during the War of 1812-1815. This tablet was erected by The Woman's Auxiliary to the American Scenic & Historic Preservation Society, A. D., 1905."

"Such," said Doodle, "is the purpose of this bellicose relic of earlier and troubled days, when we and the Old Country were at swords' points."

Jack jumped for the lowest of the loopholes and peered into the enclosure within, half-expecting to be challenged by some sturdy compatriot, musket in hand, whom he thought might still haunt this fortification. Nora was lifted by Doodle till her eyes were level with the aperture in question and she, too, had her glimpse.

Jack meantime had pulled out his dangerous-looking jackknife and was busily, if not very effectually, boring and prodding into the mortar that held the old stones strongly together.

"What now!" said Doodle. "Why this spirit of vandalism and destruction? Have you no reverence for a valued relic of our historic past?"

Jack did not seem disturbed by the question, but kept busily at work.

"I am trying to dig out some British bullets that I'm sure were shot into this fort one hundred years ago," he vouchsafed.

Doodle smiled: "Many a youngster, older now than your old Doodle, has probed these gray walls with the same vain hope. If ever British bullets plunged into the venerable sides of this Block House they have long since been dug out by such sappers and miners as you."

The Obelisk.

"Did the British ever shoot this fort full of bullets?" asked Nora.

"That," said Doodle, with an air of finality, "is a question I decline to answer. Let us now return to Lenox Avenue and to our taxicab. The charges on that taxi are eating up my entire fortune, and week after next you will both have to call at the Poor House, if you wish to see your old Doodle."

The heartless children seemed little disturbed by these gloomy prognostications; but they followed cheerfully Doodle's lead. Their cab was waiting and Doodle now told the chauffeur to take them home by way of Harlem Mere and McGowan's Pass Tavern.

"This lake," said Doodle to the children, "covers more than twelve acres, and is the most beautiful of all the Park lakes. It takes its name from the Haarlem Meer in Holland, a great big sea that was drained and converted into a fertile land, now dotted with villages, houses and luxuriant gardens."

The cab flew along past the Conservatory, the Nursery Gardens and past McGowan's Pass Tavern. Doodle now told them that in the old days before there was any Central Park, and when New York was a tiny little city the old Boston Post Road passed through a kind of ravine at about what is now One Hundred and Sixth Street. At the entrance of this valley there was a path called McGowan's Pass. Several skirmishes were fought here during the Revolutionary War and here the American troops camped on November 24, 1783, the night before they marched into New York when the British evacuated.

"Now for home!" said Doodle.

The New Reservoir was passed again, the Obelisk, and the Museum. Then, in a few moments, swinging round to the left, the taxicab swept out of the gate at Seventy-second Street and Fifth Avenue, while the party waved *"au revoir"* to Central Park.

CHAPTER IV

A DAY IN THE ZOOLOGICAL PARK

PART I

IN WHICH THE LONG-LOOKED FOR VISIT AT LAST TAKES PLACE; JACK AND NORA MAKE THE ACQUAINTANCE OF MANY STRANGE ANIMALS AND BIRDS AND HEAR STORIES REGARDING THEIR HABITS AND CHARACTER.

"Well, I am glad we are here at last!" exclaimed Jack, as Doodle, Nora and he stepped out of the Subway Terminus at One Hundred and Eightieth Street and walked down the stairs. "I thought we should never get here, and I have been wanting to come for *years.*"

"And so have I," said Nora, "for *years* and *years;* and now here we are! Oh! we are going to drive there!" she added, as Doodle entered into negotiations with a cabman.

Everything being satisfactorily arranged, they were soon spinning along the Boston Post Road, with the Bronx Lake on their right and the Zoological Park on their left in the beautiful garb of early summer. First they passed the Boat House on their right, and then the Buffalo Entrance on their left, catching a glimpse of the shaggy buffaloes grazing in their enclosure. The obliging cabman stopped a moment, so that they could see these animals, roaming at will in their twenty acres of meadow land.

DIRECTORY
TO
NEW YORK ZOOLOGICAL PARK

Administration Bldg., 8.
Alaskan House, 32.
Alligator Pool, 36.
Antelope House, 50.
Bear Dens, 37.
Beaver Pond, 29.
Biological Laboratory, 28 A.
Bird House, Aquatic, 5.
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Bison, 51.
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Buffalo Herd, 52.
Burrowing Animals, 42.
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Deer, Asiatic, 1.
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Duck Aviary, 3.
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Elk Range, 21.
Feed Barn, 27.
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Goats, Mountain, 48.
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Llama House, 38.
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Pavilion, Shelter, 26.
Pheasant Aviary, 40.
Polar Bear Den, 37.
Prairie Dogs, 41.
Primate House, 17.
Puma and Lynx House, 33 A.
Raccoon's Tree, 44 A.
Reptile House, 34.
Restaurant, 46.
Riding Animals, 6.
Rocking Stone, 45.
Sea Lion Pool, 12.
Service Bldg., 28.
Subway Station,
Totem Pole, 32.
Turkeys, Wild, 33.
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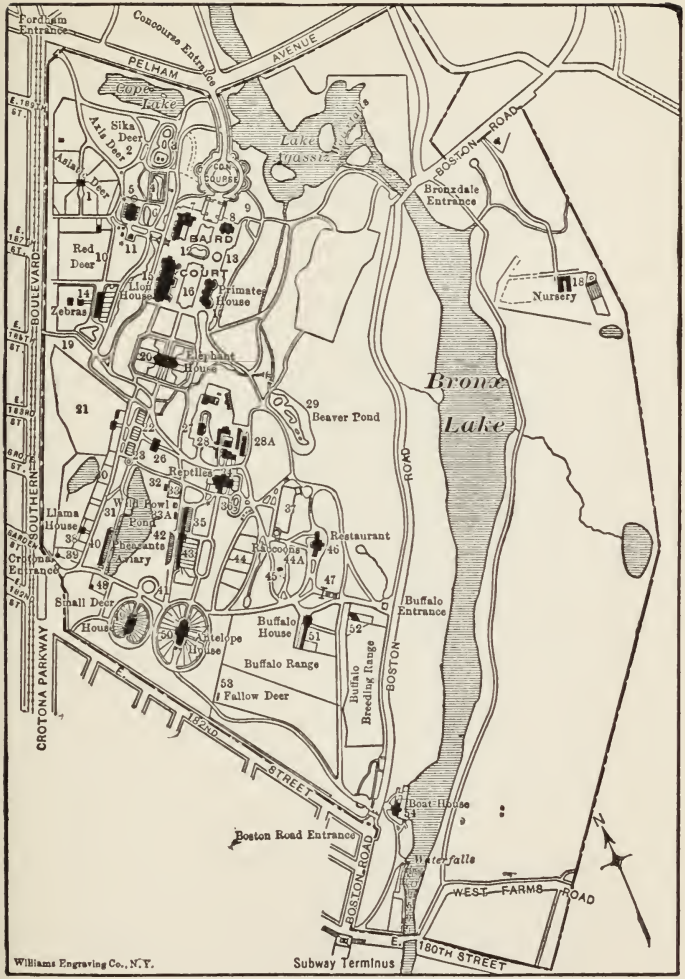
Zebra Houses, 14.



PLAN OF THE NEW YORK ZOOLOGICAL PARK

"Perhaps you know," said Doodle, "that the American Buffalo, or Bison, that once roamed all over the Western Plains, is nearly extinct. The buffalo sheds his coat in the spring, and about October or November puts on his extra winter clothing. His disposition is fairly good, though he is often stubborn. Sometimes, however, an old bull grows vicious and has to be separated from the rest of the family. The patriarch of this herd, Cleveland, was caught in the Texas Panhandle in 1887.

"The Park also owns two specimens of the now rare European Bison, which were presented in 1904, by the Prince of Pless, who owns a small herd in Silesia. The European Bison has very long legs and a very short body; but has less hair on his head, neck and shoulders, than his American cousin. He has longer horns, however."

The next thing to interest them as they drove along was the Rocking-Stone Restaurant on the ridge to the left. "That is where we shall have our lunch," said Doodle.

During their enjoyable drive of about twenty minutes, Doodle explained that it was rather hard to plan a trip around the Zoological Park because it comprised no less than two hundred and sixty-four acres of ground, through which the animals were widely scattered; and, that, although generally speaking, the Park was about a mile long and three-fifths of a mile wide, the walks and paths were so numerous that to go over the whole Park in one visit would be impossible. It would, therefore, be a good plan to take this drive and get an idea of the whole length of the Park and a glimpse of its sylvan beauties; arrive at the chief entrance at Baird

Court; and then walk back through the Park, stopping at the various houses and cages on the way.

Doodle also told them that this was noted as the largest and most beautiful Zoological Park in the world, and that on account of its woods, waters, hills, rocks and meadows, it had been possible to give the animals so much space that they live almost in the state of nature to which they were accustomed.

As they crossed the Bronx, at the Bronxdale Entrance, they were charmed with the pretty little waterfall. Next, they turned into Pelham Avenue; passed over Linnæus Bridge spanning Lake Agassiz, a pretty sheet of water occupying five acres and dotted with several islands; and entered the Park at the Concourse Entrance. Driving around the circle, they stopped in front of the imposing Terrace.

"We have a big day's work before us," said Doodle, as they all climbed out of the carriage, "for we have got to make the acquaintance of more than eight hundred mammals, more than thirteen hundred reptiles, and nearly three thousand birds,—that is, if we try to see everything."

"Oh! we can never see everything!" sighed Nora, as they walked up the steps of the Terrace and looked admiringly at Baird Court, with its stately buildings, bright flower-beds and evergreens.

"That is the large Bird House on the right," said Doodle, "and we will go in. What a noise! What squawks and squeaks and screams and shrieks from the Parrots, Macaws and Cockatoos! Do you notice that the most beautifully dressed birds have the loudest voices? That is the Red and Blue Macaw; and that is the Blue and Yellow Macaw; and here is the Great Green

Macaw; and this is the rarest of all — the magnificent Ultramarine, or Hyacinthine, Macaw. This bird is seldom seen in captivity alive, and when it does come into the hands of a dealer, it often brings as much as two hundred dollars. You see it is entirely blue, except for a few touches of yellow around the eyes and at the base of the enormous black beak. The beak is so strong that this bird can crunch up his perch and break the wires of any cage in a few moments. He is, however, quite gentle in disposition and likes to be carried about by his keeper and caressed. The bird, strange to say, seems to enjoy showing off, and always attracts a crowd.

"The handsome Black Cockatoo and the beautiful White Cockatoos, with their sulphur crests, are not lacking in loud voices, and neither are the Leadbeater Cockatoos, nor the Cuban Parrots, nor the Rosella Parakeets."

From Parrots' Hall they passed into the Main Hall to see the foreign song birds, the tropical Doves and Pigeons and the strange tropical Toucans, giant Kingfishers and Hornbills, not forgetting the central Flying-Cage which contains a large array of swimmers, waders, and perchers, and the Glass Court, which was designed especially for North American song-birds.

"We had better stop and look at the touracous," said Doodle, "for they tell us here that 'of all the thousands of living birds now in the collection of the Zoological Society, the most beautiful, perhaps, are a pair of white-crested touracous. And unlike some ornamental creatures, they are as interesting as they are exquisite in colour. The plumage is a rich grass green with a large patch of vivid scarlet

Baird Court.

on each wing, and a stiffly erect crest tipped with a delicate brush of white. Every movement is full of grace, and from their slender necks to their well-proportioned feet they are creatures of beauty which it is a delight to watch. Their position in classification has long been a matter of dispute, but true to their character of two toes in front and two behind, they are now usually placed near the cuckoos, with a strong leaning in the direction of the parrots, although they are absolutely unlike these latter birds both in appearance and actions. The most interesting thing about them lies in the red colour of the larger wing feathers, this hue taking up a considerable portion of each side of the vane of the feathers. When the birds bathe, this pigment sometimes tinges the water to a slight rose colour, a remarkable fact when we realise how permanent and difficult of extraction the pigments of birds' feathers usually are. When the proper succession of acid and alkali are used, this red colour of the touracous' wing can be extracted and precipitated in the form of a bluish-green powder and we find that it is nothing more nor less than *pure, metallic copper.*

" 'The source of this metal in the bird's wing is unknown, although it has been suggested that in a wild state the touracou picks up pieces of copper or malachite with the grit which they swallow to aid them in grinding their food. A much more probable explanation is, that bananas, of which these birds are very fond, contain traces of the metal, and that by the accumulation of this, sufficient is stored up in the dermal tissues to produce the required percentage in the wing feathers. As if one such remarkable fact were not enough, abundant

traces of iron have been found in the green portions of the plumage, so that these birds are metal extractors in more than one way.'

"You are both so fond of pigeons," continued Doodle, "let us see some of the rare kinds. One of the most beautiful birds in the Park is the Great Crowned Pigeon, a native of New Guinea. You see he is lavender in hue, with a broad band of brown on his back and wings, the latter of which are ornamented with a large patch of white; and his eyes are scarlet. He utters a low booming curious sound, and is noted for his quarrelsome disposition.

"Now this is another curious pigeon,— the Bleeding Heart Pigeon from the Philippines."

"Oh dear! he has been hurt!" exclaimed Nora, who had not caught the name of the bird.

"No, he hasn't," said Doodle. "His white breast has that strange bloody spot on it. Isn't it queer? He looks as if he had just been stabbed."

Doodle next pointed out the Giant Kingfisher, or the Laughing Jackass, of Australia, and the Himalayan Jay Thrush, the latter a wicked bird that loves to murder other birds.

"The Himalayan Laughing Thrush, or Jay Thrush, is neither a jay nor a thrush. He has, as you see, a white throat and breast; a high crest of white and pearl grey; and a jet black line extending backward through the eye. Every morning and sometimes during the day he and his mate sing a duet. They sit side by side — though they do not have any music book — and lean towards one another with their bills pointing upward. One bird sings something that sounds like 'bob-white, bob-

white' and the other makes a noise that sounds like a wild laugh."

"Where did they get all the birds?" asked Jack.

"A great many have been caught by Mr. Beebe, who has made many expeditions and travelled about twenty-three thousand miles to study and to find birds for this Park. He has been to Nova Scotia, British Guiana, Venezuela, Trinidad, Florida, Virginia and Gardiner's Island, and collected, as we shall see, many rare specimens. Then many rare birds have been bought from various dealers, and others given as presents; so we have a large company of individuals from Australia, Africa, India, South America, the Western Plains and many other parts of the world. Moreover, numbers of native birds are caught every summer here in the Park."

Next they visited the Lion House; and, as Doodle opened the door, Jack cried in the greatest excitement:

"Now, for the lions and tigers! Hurrah for the lions and tigers! Here they are!"

The superb Hannibal raised his head in disdain at such familiarity expressed towards the King of Beasts and dropped it again upon his paws, while the Bedouin Maid, Cleopatra, Dongola and Sandibel took a sleepy interest in their new visitors. It was early in the morning and the other party that was passing through this hall had bored them.

The splendid tigers fascinated Jack and Nora quite as much as the lions, particularly as they were walking up and down in all their majesty and soft-footed grace. Doodle called their attention, also, to Lopez, one of the finest jaguars in captivity, telling them that Lopez was a native

of Paraguay and that when he was captured he was sent to Asuncion in a very rickety cage and small boat on a long journey and came near being drowned several times. Then he was sent to Liverpool and for three months lived in Cross's wild animal establishment before he was shipped to New York. "I know something about Lopez that does not speak well for his character," added Doodle, and then, addressing the animal, said: "Lopez, I am going to tell Jack and Nora what a wicked beast you are!"

The handsome jaguar, however, showed not the least concern as Doodle told the following story as given by Mr. Hornaday:

"'From the day of his arrival at the Park, Lopez had never been one of the snarling kind. On the contrary, he constantly manifested what was considered a playful disposition. Most large felines of savage disposition show it by snarling, and charging against their bars. Lopez, on the contrary, seemed anxious to play with anyone who came near his cage, and had a trick of rolling on his back, with his paws in the air, quite after the manner of a good-natured house cat.

"'In Hamburg, a female jaguar, very nearly full grown, was purchased as a cage-mate for him. Lopez was the first animal placed in the first finished cage of the new Lion House, weeks before the workmen had completed the other cages. Inasmuch as the female had been six weeks in her travelling cage, and sadly cramped for room, it was decided to place her in the Lion House without delay. In order to ascertain the temper of Lopez toward her, her cage was raised to the level of his, and the two were placed with their bars in close

Dreaming of the Wild.

proximity. Lopez was greatly interested by the stranger, and attempted to play with her through the bars. She observed him without any manifestation of fear, and seemed to be interested by the prospect of a larger cage, and a companion in captivity.

"'For two days the female's cage stood in the position described, and during all that period Lopez manifested not the slightest ill-temper or displeasure toward the new arrival. At the end of that time the Director held, on the spot, a consultation with the keepers, and it was agreed that it would be quite safe to admit the female to the cage of Lopez. The doors were opened, and without the slightest fear or hesitation the female jaguar walked into her new home.

"'Instantly, the whole nature of Lopez changed — or rather, his real nature came to the surface. His scheming for an advantage had been successfully carried out. With a savage growl, he rushed upon the unsuspecting female, seized her by the right side of the neck, and held on, biting savagely. From the first instant, the female seemed utterly powerless. With an iron scraper, and a hardwood pole ten feet long, Lopez was beaten over the head and prodded in the face; but he only shut his eyes and tightened his grip on the neck of his victim. In the midst of his punishment, he rose from the floor, carrying the female in his jaws as a cat carries her kitten, and walked to the opposite side of the cage. It was nearly a minute before the savage creature was forced to quit his hold, and resist the attacks made upon him by the keepers. When he released the female, she lay upon the floor, motionless, and in two minutes more was quite dead.

" ' The injury was inflicted by a square bite, with no wrenching, and the murder was fully premeditated. As an exhibition of the terrible strength of the jaguar's jaws, it was quite as astonishing as it was unexpected and shocking. As a consequence of this act of treachery, Lopez will live in solitude the remainder of his life.' "

The children were so distressed by this sad story that Doodle abruptly asked,

" Shall we go and see the Monkeys? "

" Oh! I *love* monkeys," exclaimed Jack, as they wended their way to the Primate House, where the big family of four-handed animals live. Once here, it was hard to get the children away. The Orang-Utan, the Chimpanzee, the Gibbon, the curious Mandrill, the Golden Baboon, the Long-Armed Yellow Baboon, the Hamadryas Baboon, with the long side whiskers and strange cape of hair, the Japanese Red-Faced Monkey, the Pig-tailed Monkey, the Rhesus Monkey, the Bonneted Macaque (the best monkey to keep for a pet on account of his amiable disposition), the Mona, the Green, the Red, the Vervet, the White Collared Mangabey, the Sooty Mangabey, and the Sacred Entellus of India were duly admired.

Doodle then showed them the Monkeys of the New World — the Sapajous, the Black Spider Monkey, the Grey Spider Monkey, and the delicate little Marmosets,— impressing upon the children the strange fact that the prehensile, or grasping, tail, is never found on any monkey of the Old World!

The pretty little Lemurs, with their long tails, fine hair, bright eyes and pointed noses, also in-

terested the children very much; but they could not afford to spend any more time here.

Passing through the centre of Baird Court they stopped to look at the Sea Lions that were diving, swimming, climbing and cutting up all kinds of antics to the great amusement of a crowd of laughing spectators.

"Those Sea Lions came from Santa Barbara," said Doodle, "and during their long trip they had to be drenched with water constantly and fed on raw fish."

It was hard to tear themselves away from the Sea Lion Pool; but soon they were walking along the pretty path leading north to Cope Lake. They now came to the hill that rises between the Fordham Entrance and Bird Valley where are situated a series of houses and enclosures occupied by the deer of Europe and Asia. Those who enter the Park from the Fordham Entrance by Osborn's Walk, gain a fine view of these beautiful animals. Here is the Axis Deer, the handsomest of all tropical deer, with the most beautiful coat probably possessed by any one of the tribe; then come the Japanese Sika; the Burmese, or Brow Antler Deer; the Barasinga Deer; the Indian Sambar; the Altai Wapiti; the Malay Sambar; the Maral Deer, the European Red Deer; and the Fallow Deer — a beautiful family of animals and finely represented.

"Now we have come to Cope Lake," Doodle remarked, "the happy summer home of the big birds, a lovely piece of water. Before we look at the birds, however, I want to show you a wonderful nest,— perhaps the biggest nest you will ever see. It weighs more than four hundred pounds —

think of it, a nest weighing four hundred pounds! There it is in the topmost crotch of that tall tree on the edge of Cope Lake."

"What kind of a nest is it?" asked Jack, "and who found it?"

"It was the nest of a fish-hawk," replied Doodle, "and was found on Gardiner's Island, by Mr. Beebe. Mixed with the huge sticks are pieces of wrecked boats, broken oars, rope, nets, barbed wire, shells, horseshoe, crabs and skeletons of quails; and, at the side of the nest, are three nests of blackbirds, who evidently went there for protection."

A little south of Cope Lake and at the north end of Bird Valley they found the Duck Aviary (250 feet long and 150 feet wide).

"Just look at the ducks, the green-winged and blue-winged teal, Pintail and Mandarin Ducks, the Red-Head and Canvas Back and all the pretty Geese and Swans," exclaimed Doodle. "I wish we had time to stay here longer and watch them at play, but here is something even more attractive."

Doodle was referring to the enormous Flying Cage, south of and close beside the Duck Aviary, a tall steel structure composed of arches and wire netting (55 feet high, 75 feet wide and 152 feet long) and enclosing three tall trees, shrubbery and a pool of water 100 feet long. In this large pool, the Pelicans, Flamingoes, Herons, Penguins and rare tropical ducks, enjoy life and here the great California Condor has his summer home. Vultures may be seen here sometimes and also the peculiar Curassow. The latter is a striking bird with a beautiful black crest and feathers.

"The under side of him, you see," said Doodle,

The Flying-Cage.

" is white and he has a curious piece of skin under the bill. He is a very gentle bird and is usually very quiet; but when he is excited, he has a curious way of raising his tail over his back and drawing back his head till his head touches his tail. Then he walks around in this position, squealing and grunting. He is a native of Central America and lives in great flocks in the forest."

" Can't you make him do it now?" asked Nora; but Doodle turned the subject, drawing attention to the American Flamingo, once common in Florida; but now alas! this beautiful bird is only to be found in the Bahama Islands and Cuba.

" Its feathers are very fine," said Doodle, " and of a rich scarlet, though not so bright in captivity as in a wild state. When flamingoes are first hatched, they have a suit of the softest and whitest down and their bills are straight. When they get older, the bills are very much curved. Young flamingoes are fed on dried shrimps, bread and boiled rice!

" The European flamingo is almost white. Among the ibises, storks and herons we find the sacred Ibis of Egypt,— that beautiful scarlet bird. That queer thing over there is one of the rarest of all birds,— the Jabiru."

" What is he?" asked Jack.

" The Jabiru is a kind of stork and comes from Mexico," Doodle answered. " Mr. Beebe says 'This is probably the most comical looking bird in the Park, even going ahead of the wood ibis, which until the Jabiru's arrival, held undisputed sway as the greatest idiot of the collection. An immense, upturned bill protrudes from a head bare of feathers,

but with a tuft of hair-like down on top, which, standing upright, gives the bird a continually surprised expression.

" ' His long neck is naked, partly black and partly flesh-coloured. His body feathers are a dirty white, although giving promise of becoming immaculate at some future time, and he walks, or rather totters, on a pair of very long legs, the management of which is a great perplexity to him. He is at his best — or worst — at meal times, when he seizes whole fish, a foot in length, gulps them entire, smacks his bill and squeals with delight. He has a way of shaking them down his throat by jerking his head and beak sideways, but it looks exactly like a person who is saying, " My, that was good! " Jabiru is playful, but as graceful in his play as a seal on dry land. A favourite mode of resting is on his entire foot, heel and all, and when seated on a little elevation in this position, one sees him silhouetted against the sun, with the light shining through the loose, crimson skin of his neck, the sight is likely to remain in the mind of the observer for a long time. The bird has the power of distending this skin, which then becomes a brilliant scarlet, and this gives the neck an immense diameter, and the bird a most bizarre appearance. It is from this habit that the bird gets its name, the Indian word *Yabirú,* meaning " blown out with wind." It inhabits South and Central America and even comes across the Texan border, so it is rightfully included among the birds of the United States. Very little seems to be known of its habits except that it nests in high trees and lays blue-green eggs.'

" The Penguins are almost as funny, I think, as old Jabiru," added Doodle. " Whatever they do

is amusing, whether they swim or dive or waddle. Their wings look like sharks' fins and they paddle about with them in a ridiculous fashion. Their feathers have lost all softness and resemble horny little scales. With their flat, fish-like eyes they can see distinctly under the water.

"See if you can find the big Condor, General. Oh, yes! there he is. General has been one of the pets of the Zoological Park ever since 1906. General had just been hatched when he was found that year in one of the canyons of Southern California; and when he was three months old he was taken from the nest and shipped to Portland, Oregon. There he lived for another three months.

"Like the Buffalo, the splendid Condor of California is doomed to extinction. Once he ranged the mountains of the Pacific from Washington to Mexico but was killed off and now he lives in the coast mountains of Southern and Lower California. He is one of the largest birds of flight living to-day. He is about four feet long and his spread of wing averages nine feet. The plumage of the male is sooty black and his head and neck bright orange and yellow."

"There's Gunda! I know him from his pictures," exclaimed Jack, as the handsome Indian Elephant appeared near the Flying Cage, lazily swinging his huge india-rubber feet as he moved along in the performance of his regular duty of giving children rides. "Do you know where Gunda came from, Doodle?"

"Yes; I do. He was caught wild in the interior of Assam and arrived here in 1904. He had a long journey didn't he? At that time Gunda was about seven years old, so he is now about thirteen. He is

a very intelligent animal and knows a great many funny tricks. He is now going up to the Pony Stand, where the children get on and off his back."

"Do you think he minds?" asked Nora.

"Minds what?"

"Riding the children on his back?"

"No; the keepers say he seems to like it. Gunda is very amiable. They tell us here that 'in numerous ways he indicates his complete satisfaction as to his bill of fare and the kindness of the keepers. He kneels at command, salutes, shakes hands, and is also a banker. If anyone throws a penny on the floor, he picks it up and drops it into the box above his head, after which he rings a bell with his trunk. Then he looks for a reward. If it is not forthcoming, in the shape of forage biscuits or peanuts, he rings the bell until it does come."

Jack and Nora were enchanted with the recital of Gunda's accomplishments and were also charmed to behold him in the flesh, for they had read a great deal about Gunda, and to see him was one of the objects of their visit to the Park.

"Do you want a ride?" asked Doodle.

"Indeed we do," said Nora and Jack together.

Doodle, therefore, took them to the Pony Stand and waited while they had their exciting ride.

After this little diversion, the three continued their walk, still going south; and south of the Flying Cage, and to the right of the Pony Stand, they saw the Aquatic Bird House, where the big birds have their winter home. Still going south, they passed the enclosure where the Red Deer were browsing and reached the Zebra Houses, situated in a pretty grassy meadow of about six acres,— a nice play ground for these wild horses. They saw the Persian Wild Ass;

Gunda.

the Onager, that lives in Western India and Beluchistan; the Kiang, a native of Thibet; the strange little wild horses called the Prjevalsky Horses from Western Mongolia, captured in 1900 between the Altai and Thian-Shan Mountains; and the Zebras, with wide stripes on their backs, faces and legs.

"This one is the rarest of all"— said Doodle,— "the Grévy Zebra."

"Gravy!" said Jack. "Why, have they spilt gravy over him?"

"I think," laughed Nora, "that it looks more as if somebody had upset the cream over his back and it had all trickled down."

"No, children, you are wrong. He is named for an ex-President of France — President Grévy. This Zebra is very rare, and he is very expensive (he is valued at about $2,000); he is considered very handsome; and he is noted for being one of the largest, rarest, and most showy of Zebras. His complete suit of black and white stripes is of generally uniform width and his ears are large; and you see his stripes extend all the way to his hoofs; and if you can find a tailor, that can cut and fit a better suit than his, I shall be glad to have his address."

"He keeps his stockings up nicely, too, without any garters," said Nora, "where does he come from, Doodle?"

"From Southern Abyssinia and Somaliland; and probably no more than fifteen are in captivity outside of Africa."

Taking the Service Road south of the Zebra Houses and walking west, they soon came to one of the handsomest houses in the Park — the Elephant House. It is beautifully carved with

elephants' heads and other sculptures, and provided with roomy cages, each of which opens into a yard, or corral.

"This little elephant, with the small round ears and five toes on each forefoot is Congo," Doodle explained. "Congo comes from West Africa and is very different from Gunda. The shape of their heads is unlike and Congo's tusks take a downward curve. When Congo was caught in 1905 and arrived from Hamburg he was supposed to be three years old,— so he is just about your age, Nora."

At this piece of information Nora surveyed her contemporary with fresh interest.

"Very different from either Gunda and Congo are the two big Soudan African elephants from the Blue Nile country," Doodle continued. "They came also by way of Hamburg, and were three months in travelling. They are now about five or six years old. They cost $2,500 each, though they are now worth double that sum, at least. When Kartoom, the male, reaches his growth, he will probably have a shoulder height of eleven feet and will weigh 12,000 pounds. Sultana will not be quite so large, though her ears are just as large for her size, as are those of her royal consort."

"Do you know," asked Doodle after a pause, "that the elephant's trunk is almost as wonderful as the hand of man? It is! The elephant can do almost anything he pleases with it. He can pick up a man and dash him against a wall or gather up a tiny thing like a nut from the ground. The trunk is of enormous strength and extraordinary delicacy. It contains about thirty thousand muscles; and, therefore, Mr. Elephant can shorten it,

lengthen it, or curve or bend it any way he pleases. The little appendage at the end is called 'the finger.' The elephant does everything with his trunk except put clothes into it. It is his drinking-cup; the hose with which he sprinkles his body; the powder-puff with which he sprinkles dust over his moistened hide to protect it from flies; the knife and fork with which he breaks off a leafy branch or cuts a blade of grass; and he has even been known to use it as a kind of tooth-brush when he wants to rub his mouth with mud. It is also his strong arm. A wonderful thing, indeed, is the trunk of an elephant."

In the same house they saw the splendid young Two-Horned African Rhinoceros: Victoria, captured in German East Africa, near the head of Speke Gulf on Lake Victoria Nyanza, in July, 1905. Speke, her mate, captured in nearly the same spot, in April, 1907, died some time ago.

"How would you like to be slung under a pole and carried six days' journey to the Lake and then transported by steamer to the Uganda Railway and then five hundred miles to Mombasa and then all the way to New York?" Doodle inquired. "Well, these two animals had to take that long and most uncomfortable journey."

"Did this one come from Africa, too, Doodle," asked Jack, as they walked to the next cage.

"No; Mogul is an Indian Rhinoceros, a very rare animal, chiefly found in the swampy plains of Assam. Mogul arrived here in 1906. Poor old thing, he is blind! This Hippopotamus," continued Doodle, turning to the animal in question, "has never seen a jungle. He is a native American

and was born in Central Park in July, 1904. And what do you think the donor paid for him? Three thousand dollars!"

"That's a great deal of money," said Jack. "I'd rather have an automobile than such an old fright as that."

"I don't think he's worth all that money, either," Nora agreed. "There are a great many things I'd far rather have than that old Hippopotamus."

"Here is another foreigner," said Doodle, calling attention to the Malay Tapir. "He had an awful experience, poor thing. He was on a ship, called the *Mancaster Castle;* and when it was coming through the Red Sea, a fire broke out in her hold under the tapir's cage and the poor animal was nearly burned to death; but the fire was fortunately put out.

"The Malay Tapir is, as you see, half brown and half white, and the peculiar shape of the white patch gives it the name of Saddle-Back Tapir.

"The other one with the long prehensile nose, like an elephant's trunk, is a South American Tapir."

Walking back from the Elephant House to Baird Court, they took a path leading in a south-easterly direction from the Primate House.

"This path will take us," said Doodle, "to one of the most attractive spots in the whole Park,—Beaver Pond. It is a pretty little secluded place that will make you fancy you are in some far-away forest.

"Beavers are very shy and I doubt if we see one of them. We certainly shall not surprise them at work, for they are busy only at night. They cut down trees and build dams of mud and water-

soaked leaves and are just as busy as it is possible for any creatures to be. The best time to see them is after six o'clock. The dam, about forty feet long and four feet high, was built entirely by these little beavers who cut down the trees and built their house also. The entrance to the Beaver's house is always under the water.

"Well, that's enough for the Beavers," said Doodle, "and I think we had better wander along to the Rocking-Stone Restaurant and have lunch and a rest; after that we will explore the lower half of the Park."

It was quite a little distance from Beaver Pond to their destination; but the way seemed short. Although the path led directly south to the Bear Dens, they could not stop to look at the Bears for it was past one o'clock and so they continued their way, still walking south to the Rocking-Stone Restaurant, which with its flowers and attractive dining-room, offered a cool and restful retreat after their long walk.

CHAPTER V

A DAY IN THE ZOOLOGICAL PARK

PART II

IN WHICH DOODLE, JACK AND NORA AFTER LUNCHING AT THE ROCKING-STONE RESTAURANT, VISIT THE REPTILES, SMALL MAMMALS, MORE BIRDS AND BEASTS, AND SEE ALL THE LATEST STYLES IN ZOOLOGICAL FASHIONS.

The Rocking-Stone Restaurant takes its name from the big granite boulder in the vicinity, which can be made to swing about two inches if a slight pressure is exerted at one angle of the stone. There were too many other attractions for the children to take much interest in this, however; and, besides, they were rather hungry. Doodle also had an appetite; and, for a time, the broiled chicken, fried potatoes and other things that were invitingly served absorbed all their attention.

"There goes the photographer!" exclaimed Doodle, who had been looking out of the window enjoying the beautiful scenery in silence while Jack and Nora were finishing their strawberries and cream, "he is going to take some pictures — the bears probably. Many persons think it is a simple matter to photograph a wild animal, and that all they have to do is to take a snap-shot from the

walks or between the bars. Then they are surprised if the picture does not turn out to be lifelike. The fact is the animal really has to be made to *pose*. The photographer must enter the cage with his camera, and he must be accompanied by the keeper with his club, for sometimes the subject is frightened, or enraged, and makes a dash for the photographer and his camera. It is a very dangerous piece of work. Well, shall we go along?"

The children were quite ready and so they started off again, this time walking west of the Restaurant and coming to the ridge known as the Mountain Sheep Hill. The Zoological Park has always made a special feature of its wild sheep and goats, and, therefore, Doodle pointed out some of the attractions, such as the Musk Ox, that stands between the cattle and sheep and lives in this hemisphere in Northern Canada from Great Bear Lake to Hudson Bay and on the northern coast of Greenland. After admiring Lady Melville, presented to the Park by a Canadian explorer in November, 1909, they turned their attention to the Sardinian Mouflon.

"He is very proud of those huge curving horns of his," said Doodle, "and he is very friendly and very, very vain. I have my suspicions that his friendliness is a trick to win admiration. He is always posing, at least the keepers say so.

"Here is another 'big horn' sheep — that is to say with the large circling horns — the Arcal Mountain Sheep. He lives in Northern India, Southern Persia, Afghanistan, Beluchistan and Thibet; and here is one of the wild goats, called Tahr, from the Himalayas of Northern India. He is extraordinary on account of his long hair; and what a peculiar colour it is — a purplish brown! The Tahr

is very sure-footed and dwells among the crags and precipices of high mountains. The Zoological Park has nine of him. The Persian Ibex is interesting, too. See, there he is nibbling the grass over there in the distance!"

They now came to some steps leading down from the Rocking-Stone to the Raccoon Tree,— a cedar-tree enclosed by a fence, near which a pool of water and a rustic house, containing ten warm compartments, afford our old friend Brer Coon all the comforts of home.

"Is he old Brer Coon that Uncle Remus tells about?" asked Jack.

"Tobysholy honey," answered Doodle, "he is de ve'y same old Brer Coon, who knew Brer Rabbit and all de yuther creeturs."

"I don't see him," said Jack, peering about excitedly.

"You are looking on the ground," answered Doodle. "I see three little, round, furry balls in the crotches of the tree."

"Oh yes, now I see three 'coons," said Jack.

The attention of the children was soon diverted, however, because Jack caught a glimpse of the long row of Bear Dens.

"Oh! there are the Bears!" he exclaimed and ran off to make their acquaintance.

"What more could a bear desire than he has here?" asked Doodle. "Look! he has rocks and trees for climbing, and caves where he can retire from the maddening crowd,— caves where he can hibernate in winter, just as he does in his native forests."

Doodle then showed the children the five species

of Alaska Brown Bears — calling special attention to the Peninsula one, the second largest bear in captivity, and then to the Grizzlies.

"The Grizzly Bear," explained Doodle, "is the most savage and dangerous of all bears, and he is rapidly disappearing from the United States. This one is named Engineer."

Next they looked at the Black Bears, the Cinnamon Bears, some Brown Bears from Europe and also the pale Yellow Syrian Bears with their high shoulders and narrow head. "These," said Doodle, calling attention to the latter, "are the bears described in the Bible that devoured the children who spoke so disrespectfully to the Prophet Elisha;" and then noticing the look of alarm that Jack and Nora bestowed upon these animals added quickly: "Oh, no! I don't mean those special bears. I am referring to their ancestors. I do not believe these Bears have the slightest desire to make a meal of us. Oh, do look at those two Black Bears standing together against their cage with their paws through the bars and grinning! They want to attract our attention. Bears are awfully funny at play. When the collection was first started and the first bears arrived, they seemed satisfied with their new home and were in the best of humour. Mr. Hornaday tells us that 'When the grizzly and black bear cubs from Alaska, Colorado and the Adirondacks were liberated in their dens they galloped around the floor a few times then fell to chasing and wrestling with one another like Western school boys. They raced mad scrambles up the rocks, up the slanting tree trunks and down again, round and into the pools.'

"Not so, however, with Silver King, the gigantic polar bear (there he is!), eight or nine feet long, caught last spring in the Arctic regions (latitude 75°) by Paul Rainey and Harry Whitney. They lassoed him, while he was asleep on an ice-floe, and took him on board the steam-sealer *Boethic*.

"When the *Boethic* arrived at City Island, twenty men worked ten hours before they could get him off the boat and into his den in the Zoological Park. He fought so desperately that they had to chloroform him and it took four pounds of chloroform to make him quiet! When he arrived, the other two polar bears, Greeley and Aurora Borealis, greeted him with growls. Arctic Queen, the other polar bear that was captured at the same time, gave no trouble. This expedition also brought back some musk oxen, a blue fox, some Eskimo dogs and a baby walrus, named Flip. Flip is valued at $1,000; for walruses in captivity are rare. On the way home, Flip was fed on cooked oatmeal; but now Flip gets three pints of soft clams a day. The polar bears have for a treat cod-liver oil, which they love."

"Look, Doodle," said Jack, pointing to a label on one of the cages: "The Bears are fed at 4 P. M. Can't we come and see them? We missed the Lions' dinner,— you know they are fed at two o'clock! Do let us see what the Bears have to eat."

"No, Jack, we have too many things to see. I'm afraid we can't come back, and so we shall have to miss the Bear's Afternoon Tea."

Taking the Service Road at this point and walking a short distance west, they soon reached the Reptile House and Tortoise Yards.

The children were somewhat surprised when

they entered the Reptile House to see the great number of tanks and cages. The first thing that attracted their attention was the Alligator Pool, where the sluggish creatures were lying among the palms, resurrection ferns, Spanish moss and other greenery that were reminiscent of their Florida home. Both Nora and Jack had little to say — and few questions to ask, as they looked upon one exhibit after another, while Doodle told them the following facts.

"Serpents, or snakes, are very weird. Most people hate them. However, if we can bring ourselves to look upon them without aversion, reptiles are of great interest. A snake seems to be all tail, —doesn't it? Well; it has ribs and scales. Ribs! I should think so! Some serpents, indeed, have no less than three hundred pairs of ribs! The snake moves by means of these ribs and scales, which take hold of the surface on which it passes. It glides rapidly over the ground, swims, and even climbs trees. Over a perfectly smooth surface, like glass, for example, the serpent is helpless and cannot move at all. Some snakes, particularly those that live in trees, hold their place by means of the scales near the tail and swing the upper part of the body in the air. Now here is another strange thing — true serpents live on prey larger than themselves which they swallow whole. The Boa, for instance, crushes its victims by constriction — that is to say — a kind of tight hugging. The mouth and the body of constrictors dilate tremendously; but sometimes serpents seize prey too big for them to swallow and die in the attempt. Their teeth are peculiarly formed and *slant backward* so it is hard to get rid of anything that is once in

the mouth. In vipers, rattlesnakes and other venomous serpents, there are no teeth on the upper jaw, their place being taken by venomous poison fangs — two long fangs firmly fixed in a movable bone. When not in use, these fangs lie flat on the roof of the mouth, and when the snake is angry and about to attack its enemy or prey, the fangs dart out from the jaw like a couple of lancets. Each fang is practically a little tube of poison. The venom of the serpent differs in different species. The bite of some serpents causes the death of a human being in a few minutes; that of others, in a few hours or days.

"The tongue of the serpent is forked and is often called the 'sting'; but is not a sting at all. The fangs take the place of a sting.

"The heart is placed far back in the body; the ear has no external opening; the non-venomous serpents lay and hatch eggs; and the only sound all snakes make is that of hissing. Some of them are very beautifully marked in patterns that look like rugs and carpets and basket-work, and some of them have scales of lovely colours — red, green, purple, blue, brown, white — in fact, all the hues of a kaleidoscope. When the snake is in perfect health, these scales shine and glisten with iridescent hues and a fine metallic lustre. Nora, that is a little snake-skin purse that you have in your hand, with all those pretty markings."

Upon this, Nora looked at her purse and then comparing it with the snakes, seemed satisfied that this was true.

"The Reptile House," continued Doodle, "contains one of the best collections of serpents in the

world; and these specimens, gathered from all quarters of the globe, are exhibited in such a way as to show each off to advantage. The Water Snakes have tanks; the Sand-Vipers, fine sand, like that of their native desert; the Whip-Snakes, bushes where they can show off their balancing tricks; and the Tree Boas, boughs in which they can coil themselves at pleasure.

"Everybody likes to see the great constricting Pythons, Boas and other venomous serpents, so let us first take a look at this enormous Regal Python, that came from Borneo several years ago. It is twenty-two feet long, and weighs nearly one hundred and seventy pounds! It is not a venomous serpent; but its crushing, or constricting, power is frightful to think about. The Regal Python is supposed to be the largest species of serpent living; and it is a very vicious snake. This special Python is fed once every ten days; and then it swallows down at one big gulp an eight-pound chicken, feathers and all! Sometimes when it is very hungry the Python will gobble down two or even four chickens! Then it goes to sleep and digests this fine meal. After ten days, it wants its next dinner. If it can't have chicken, it will be satisfied with young rabbits, or pigs.

"The African Rock Python, has a body of a delicate tan-colour, decorated with patches of olive brown on its back and a broad pinkish band on each side of its head. This snake is docile; and is a favourite of the snake-charmer.

"Among the recent arrivals at the Reptile House are a young Regal Python, also from Borneo; two Congo Pythons; a Madagascar Boa; and a Mada-

gascar Tree Boa; the latter is very much like the South American Boas. Suppose we look at some of these now.

"The largest of all the Boas of the New World is the Anaconda, from South America, a very vicious snake that hates to be handled. The specimens here spend most of their time in the water, swimming slowly about in the tank, or lurking in the corner with their noses above the water. The Anaconda is very handsome in colour — rich green with black spots.

"The Common Boa, known as the Boa Constrictor, is a native of South America and the West Indies. This averages from eight to nine or ten feet and is quite docile. This special Boa is a great favourite of snake-charmers because of its gentleness.

"Next let me show you the West Indian Boa; and the Mexican Boa, the latter noted for his bad temper and rich colours.

"The Tree Boa is very peculiar. Its neck is long and slender, its head large and broad and very pointed at the snout; and, when it wraps its body around the limb of a tree and loops its neck in the air ready to strike, it is quite a terrible object.

"There are some other Boas from Central America, Cuba, and Mexico; more Green Tree Boas; and the small Rubber Boa, a burrowing snake that lives in our Pacific Coast States as far north as Oregon. It is, as you see, very round, a pale grey and is about eighteen inches long.

"This is another burrowing snake — the Sand-Boa from Egypt — sometimes known as the Two-Headed Snake, because the natives paint a mouth and two eyes on its tail and exhibit it as a snake

with two heads! This snake is dull in hue, like the sands of the desert. It feeds on small mammals.

"Perhaps, however, the most famous snakes of all are the King Cobra and the Cobra-de-Capello. There are two specimens of the King Cobra, one of which has been here for nine years and is as bad tempered as he was when he first came. He is always ready to strike his keeper. He is so calm and bold and quiet and treacherous that he is considered the most dangerous of all the deadly serpents. The two King Cobras are fed every Sunday morning and each eats a freshly killed snake. A regular cannibal snake!

"Yes; but that is not all. He inclines rather to made dishes, for the keepers often stuff the newly-killed snake with frogs or small rats to make the meal more substantial. *Snake farci* is quite a new wrinkle in cookery — isn't it?

"There are some specimens of Masked Cobras from Borneo, Sumatra and Java, and of the Spectacled Cobra that shows on the 'hood,' when this is spread, markings of a pair of spectacles. This is the Cobra that kills so many people in India. It is said that twenty thousand lives are lost in India every year from the bites of the Cobra-de-Capello! Several of these snakes have lived here for nine years; and, like the King Cobra, are frightfully vicious — perhaps they are the most vicious of *all* the snakes in the Park.

"The African serpents are very deadly and very gorgeous. The Gaboon Viper, the Rhinoceros Viper and the Puff Adder have terrible fangs and ugly bodies, but their scales are beautifully marked. The Cape Viper, the Pigmy Viper and the Sand Viper are interesting creatures of the desert. The

latter is red; and, instead of crawling, moves in a series of loops. It generally lies buried in the sand, only showing the tip of its snout, and its gleaming red eyes.

"Shall we look at some of the Australian snakes?

"The Purple Death Adder, with scarlet scales; six specimens of the Grey Death Adder (each about five feet long); two Tiger Snakes, with bands around their yellowish bodies,— all very dangerous, poisonous snakes; two Australian Pythons — the Diamond Snake and the Carpet Snake — with very splendid markings, are among the best examples from that far away country.

"The Rattlesnakes are all American. Their fine Latin name is *Crotalus*. They are dreaded for their deadly venom. The rattle at the end of the tail consists of a series of thin horny cells joined together, that strike against each other when the tail is shaken. It is believed that one rattle is added every year. The Rattlesnake generally rests in a coil with his rattle erected, and when molested, or fancies itself so, it shakes its rattle. People have been known to die in a few minutes after they have been bitten. Here we may see the Horned Rattlesnake, the Red Rattlesnake of Southern California, the Diamond Back, the Texas Rattlesnake, the Timber or Banded Rattlesnake, and the Canebrake Rattlesnake, that lives in the swamps and cane districts of the South. The Diamond Back is the handsomest of the family. The South American Rattlesnake is also in this collection.

"We must not omit to look at the Rat-Snakes and Water-Snakes, including the Brown Water Snake and the Cotton Mouth. Two of the oldest serpents in the Reptile House are a pair of Cotton

Mouth Moccasins, known to be over fourteen years old.

"Nobody ever had a good word for the Water Moccasin, a vicious and ugly creature, with a dull, badly shaped body. The Water Moccasin, however, is closely related to the handsomely marked Copperhead and both are cousins of the famous Fer-de-Lance, a native of the West Indies and tropical South America. The Fer-de-Lance is greatly dreaded by the natives and travellers. It is the largest of the tropical vipers; and, like most poisonous snakes, is very brilliant in colour. Its fangs are enormous and almost always fatal in their work.

"Another South American is the deadly Bushmaster, one of the largest and most poisonous snakes known. Its fangs are enormous. One of the specimens here was sent from Trinidad for the purpose of extracting venom for scientific use. It is a very queer operation and simple, so they say. They tie a piece of cheese-cloth over the top of a glass tumbler, catch the snake and grasp it behind its neck so that it cannot move its head. Then they place the jaws on the cheese-cloth. The snake, being furious, bites the cheese-cloth and the fangs are soon through. At this moment the operator pinches the poison glands and all the pale yellow venom is emptied into the tumbler, where it dries rapidly."

Having enough of the snakes, now, they wandered into the Lizard and Tortoise Yards.

"First, we will look at the Giant Tortoises that come from the Galapagos Islands off the coast of Equador," said Doodle. "These two specimens, the older of them 400 years old, it is said, represent the largest and the smallest species. One weighs

220 pounds and the other 90; and living in brotherly love with these are two Elephant Tortoises!"

"That seems to me a very good name for them," said Nora, "and their feet certainly do resemble Gunda's."

"Oh, Doodle," said Jack, laughing, "I believe he is the kind of turtle that the Mr. Lear's Yonghy-Bonghy Bò rode on."

"Why, to be sure he is," acquiesced Doodle. "Well, the Elephant Turtles do come from the

'Coast of Coromandel
Where the early pumpkins blow.'

"Their home is in the Aldabra Islands in the Indian Ocean. This may be the very turtle that Mr. Lear drew," and Doodle quoted:

'Through the silent-roaring ocean
Did the Turtle swiftly go;
Holding fast upon his shell
Rode the Yonghy-Bonghy Bò.
With a sad primæval motion
Towards the sunset isles of Boshen
Still the Turtle bore him well.'

"He certainly has a sad primæval motion, and a sad primæval face."

"All the reptiles are primæval," Doodle continued, "the lizards are only miniatures of the giant monsters you have so often seen pictures of in my books that stalked about on their hind legs before the Flood."

"Oh, I know," said Jack, "the — the — the — something sauruses."

"Yes; and they tell us here in the Park that when the lizards were placed under natural conditions in

the sandy yard they walked and ran on their hind legs, something after the kangaroo style, and in exactly the way the prehistoric monsters did.

"Look at the monster Lizard from Ceylon, over seven feet long with claws as big as a leopard's. This is the great Kabara-Goya, or Giant Lizard, also called the Monitor, and one of the largest of its kind ever exhibited. It is strong enough to kill a young gazelle and swallow it whole! The Monitor is very fond of eggs and likes to eat a dozen at a time and swallow them so quickly that you can hear them click one against the other.

"There are a great number of lizards here from the West Indies and Central and South America, including the West Indian Rhinoceros Iguana, the Black Iguana, and the Turk's Island Iguana, the Spine Tailed and the Banded Iguanas and the Black Tegus, spotted and striped with yellow; and there are Ocellated Lizards, bright green with spots of red and blue, from Southern Europe; a big Japanese Salamander; and many lizards from Mexico, Southern California, New Mexico and Arizona, including the Fringe-Toed Lizard with fringes on his feet that prevent his sinking into the sands of the desert; and Horned Lizards and Spine-Tailed Lizards and Geckos and Skinks from Africa."

"What are Geckos and Skinks?" asked Jack.

"The Gecko is a peculiar little lizard widely distributed over the world, dull of colour and ugly in form. He takes his name from the peculiar cry some members of the family utter. His accomplishment is to cling to the flat surface of anything by means of the suckers on his toes. The Skink's talents are his ability to walk on the desert sand

without sinking and to burrow beneath it with his peculiar snout."

"Oh! what is that?" exclaimed Jack, as they were walking westward from the Reptile House, and caught sight of a curiously carved and gaudily painted pole, standing at the side of a curiously painted, low-roofed house that seemed to stare and grin at them with its grotesque eyes and mouth. "Oh, what is that?"

"That is an Indian house with a Totem-Pole, from Alaska. The pole is forty-seven feet high; and, as you see, is carved with bears. It tapers gradually to the top where it is surmounted by the carved figure of a thunder-bird, probably intended for a sea-gull. The house is, as you see, carved with two gigantic figures of bears, with terrible teeth and claws, and it is painted red, green, white and black, like the pole. The Totem-Pole stands beside the house — and represents the sign, the crest or what corresponds to the name of the person who dwells there. It is a real Alaskan Indian house and a real Totem-Pole and was found in Alaska in 1899 by the Harriman Alaska Expedition, at Cape Fox where an abandoned Tlinkit Indian village was discovered. Mr. Harriman brought away the chief's house and what we might call his front door plate — the Totem-Pole. This splendid example of Indian carving is valued at $2,500 at least.

"Look! there are the Wild Turkeys!

"Some people consider the Wild Turkey the finest game bird in the world. He is chiefly found in the Southern States. Aren't his feathers a beautiful bronze as the light strikes them?"

Walking south from this point they soon reached the Small Mammal House.

"What shall we look at?" asked Doodle, as they entered. "There are 176 cages: there are members of the cat family, young leopards, lynxes and their relatives, squirrels, baby bears, viverrines, little bears, foxes, many kinds of squirrels, tropical wild swine, ant-eaters, armadillos and marsupials all living under one roof! Now can you imagine the enormous amount of food that has to come into this building every day and the varied diet of all these animals! The greatest care has been taken of this strange assortment of creatures.

"Among the peculiar little cats is a very fine specimen of the Yaguarundi Cat, which lives in Texas, Central Ameria and Mexico. Seen from a distance, he might be taken for an otter or a marten. Yes, that's a regular trick of his — running or galloping about the cage with his back arched up.

"They tell us here that the 'feeding of the small cat animals is more difficult than that of their larger relations, in the Lion House. If raw beef or horse meat were fed as constantly to the small species as to the lions, tigers, leopards and other inmates of the Lion House, an epidemic of fits would soon develop. The small cats do best on 'dipped' meat — meat that has been quickly steamed, or placed in boiling water, for a few minutes. And this diet must be frequently varied with fowls, rabbits, and rats. From the latter, freshly killed, the cats obtain bone-food nourishment. It is also important that they consume a certain amount of feathers or fur, as these substances produce a beneficial effect.'

"Among the Viverrines we find the Common Civet Cat and the Malayan Civet Cat. You can always recognise them by their ring-streaked tails and spotted bodies. Here is a queer black thing, also from the Malay Peninsula — the Binturong, or Bear Cat; and this creature, something like a Puma is the White Whiskered Paradoxure. It came from northern China and is as cross as he was when he arrived several years ago.

"These queer animals from South America are the Patagonian Fox, the Kinkajou, the Crab-eating Raccoon, and the Azara Dog."

"I'd call that a kind of grey-fox," interrupted Jack, looking at the latter.

"Yes; he does look like a fox; but his tail is very doggy,— don't you think so?" asked Doodle.

"I think he doesn't like us to talk about him," said Nora, who had been staring at the Azara Dog rather cautiously. "I think we had better go."

"Very well," Doodle acquiesced. "Suppose we introduce ourselves to the Malayan Sun Bear, who lives in Borneo, Sumatra, the Malay Peninsula and Farther India. This is the ugliest, the smallest and the worst-tempered bear in the whole world, and when he gets very angry, he barks like a dog."

"I don't like the look of him at all," said Nora, holding Doodle's hand a little tighter.

"Well then, how about this queer Capybara? He won't hurt you. He has a nice affectionate disposition."

"He *is* a queer thing," said Jack, "tell us about him, please."

"Well, you can see for yourselves that he is as large as a half-grown hog; that he wears a coat of bristles; that he has no tail, and if you look again

A Shower-Bath for the Ostriches.

at his coat you will see that the bristles grow in 'blocks of five,' as they say. They tell us here that this strange creature is fond of being petted and that it is the largest of all living rodents, weighing twice as much as a beaver. It has habits much like a hog."

"I'm sure I don't know who would want to pet *him*," said Nora. "*I* wouldn't."

"Where does it live when it is at home, Doodle?" asked Jack, intently watching the big one rubbing its mate's nose affectionately with its own snout.

"On the banks of the South American rivers near the coasts. People hunt it rather cruelly. The Capybara hunter goes out in a canoe and puts two or three dogs on the shore to drive the animals into the water. The Capybara dives well and swims for a long time under water. The hunter is after it the minute it comes up to breathe, but the Capybara is after a time too exhausted to dive any more. Then it is speared.

"One of the Capybara's relatives is the Agouti. The Agouti belongs to the group of rodents, or gnawers, known as the Cavies. All of them are good-natured even to the Capybara, who has teeth strong enough to bite off a man's finger if he wanted to. The Agouti is allowed to run over this house; and he obeys the call of the keepers and allows them to pick him up and put him back in his cage.

"Near him is the Malabar Squirrel. When turned loose he always has a great play with the keepers who try to get it back into the cage; but when the step-ladder is brought the little creature makes a dash for the cage door, thinking the game is ended."

"I wish I had him for a pet," said Nora, for the

Malagar Squirrel was looking at her own brown squirrel-like eyes with a friendly stare. "I think he is a darling!"

"Yes; the Malabar is the largest and finest of all the squirrels: he is a charming little animal. Pretty colours — chestnut brown and yellow and reddish tints — and what a tail! Yes, you've a lovely tail, Mr. Malabar; but here is a squirrel with a brighter coat than yours — the Prevost — bright cinnamon and black. The whole family is a pretty one! How do you like the Kangaroos, Jack?"

"I could look at them all day," said Jack, doubling up with laughter as he watched their hops and strange postures.

"This little Murine Opossum is a queer thing too," said Doodle. "He travels in a strange fashion,— as a stowaway in a bunch of bananas!

"The white-nosed Coati-Mundi is a relative of our raccoon and comes from Mexico, Central and South America. I think he is never still: he is so lively and such a good climber. Oh, come here! How about the African Porcupine? He is angry about something, because all those black and white quills are bristling, and look at his crest!

"Now then for the wonderful armadillos, ant-eaters and sloths! What do you think of these odd creatures that haven't any teeth! First, here is the Great Ant-eater, or Ant-bear.

"When this ant-eater arrived it was in a bad condition, too frightened or shocked by its capture, journey and change of habits to eat. So they gave him a warm bath and a beaten-up raw egg, a little of which it ate and then it went off in a corner of its cage. One day they took it out and put it among some trees near the Primates' House, where

there was quite a colony of black ants. The Ant-eater was wildly excited, dug his long claws into the ant-hills and pressed his snout into the ground and had a fine feast. So now every day his cage is placed outside so that he can hunt for his ant-dinner; but for breakfast and supper he is given a nice mixture of eggs and scraped meat beaten-up with milk.

"This ant-eater is called the Tamandua; and differs from the others of his family by having a round, hairless and prehensile tail. Look at his long front claws! The Tamandua eats eggs, milk and scraped meat. What do you think of these armadillos? You see they are encased in mail — plates of armour, a kind of hard, bony covering, divided on the back into a greater, or lesser, number of hinges, or bands. Some of them are, therefore, called Six Banded, and others Three Banded, or Nine Banded. These hinges are so flexible that the strange little creature can roll itself into a ball in time of danger, completely protecting the soft parts of his body. Armadillos are always hungry — they eat boiled meat, vegetables and the favourite food of all the captive Edentates,— milk and eggs mixed with chopped meat.

"As we go outside we can just glance at the pumas and lynxes, made so comfortable and happy in their out-of-door quarters; and now we have come to the Ostrich House."

"The Ostrich House is just like the Small Mammal House," said Jack, as they entered this building.

"Yes, it is," said Doodle, "and here we should find the big running birds — the Ostriches, the Rheas; the Emus and the Cassowaries; but the

empty cages tell us that they are enjoying themselves in the outside yards. Oh, wait a moment! here is the Bateleur Eagle of Africa. He lives here, I believe, both winter and summer. He is decidedly worth looking at. He is remarkable for his magnificent bearing, his brilliant feathers and his very short tail. Look at his very handsome top knot, or crest. Though his colours are quiet, still they are handsome and lustrous — chestnut and black and white; his beak is orange and black; and his feet and legs bright coral red."

"Where does he live?" asked Nora.

"Oh, he is an African bird. He was given his name by the French, the word *bateleur* meaning the same as clown, or mountebank. This bird is a sort of clown eagle. He has a crazy way of turning somersaults in mid-air. Sometimes he does another queer trick while flying — swinging from side to side with his wings rigid and held slantingly upward. He eats reptiles and small mammals and carrion like the vultures.

"Our Zoological Park is very rich in large running birds," continued Doodle. "By the way did either of you ever see an ostrich?"

"No," said Nora, "I never have."

"Nor I," said Jack.

"Well, look at that ridiculous bird, treading so gingerly on his toes, and please notice the way he holds his wings and his head! The African Ostrich is the most valuable, and you see he is a big bird. He is eight feet tall and weighs three hundred pounds. The female lays about ninety eggs a year. You can tell the male because of the black body and the white on the wings and tail. He doesn't know

that he is a walking milliner's shop,— with all those fine plumes under his tail.

"The Rhea is the South American ostrich, and is the most graceful of all the birds of this family. It inhabits the pampas, where its enemies, the jaguar and the puma, have trouble to catch it, because its eyesight is very keen. Its dull grey plumage makes it quite unnoticeable in its native land.

"Oh, here is the Whooping Crane, the largest of all the American Cranes. He nests in summer in the Arctic regions and in the winter goes as far south as Mexico, so you see he is a great traveller. The Whooping Crane is a very rare bird, so rare indeed that in eight years the Zoological Park has only had three specimens. Look at him now! See, he is over five feet tall; his entire plumage is pure white; his tail feathers are long and arched; and isn't he a handsome bird as he spreads his wings, stretches out his neck and runs with long steps up and down his paddock?"

"Why do they call him Whooping Crane?" Jack asked.

"Why, because of the peculiar noise that he makes. It is a loud, ringing cry, more like a trumpet-call than a whoop and it is produced in a peculiar way. The bird's windpipe, which is nearly five feet long, is coiled inside his hollowed breast bone, much like the spirals of a French horn, and that explains the noise that he makes which can be heard for half a mile. Where does he live? In the Western Plains and the Mississippi Valley. I think he is very graceful, though he is amusing. See what a lovely neck he has and what a finely poised head!

"There goes the Sandhill Crane. He comes from the eastern United States and was at one time common in the Mississippi Valley. He is slaty blue and the male is quite pugnacious, so don't go too near him. The Asiatic White Crane looks something like our Whooping Crane and the Sarus Crane like our Sandhill Crane; but here is a different one altogether,— the Crowned Crane from Africa, handsome in colour and very gay with a crown of stiff feathers.

"This gentle little bird is called the Demoiselle Crane, quite a dainty little lady. She comes from Africa; as does also the Paradise Crane with a drooping tail of feathers, and side feathers on its head.

"Cranes are beautiful birds and strange birds, and they are up to all kinds of tricks and antics. Mr. Beebe says:

"'A stranger might imagine the cranes were crazy or affected by the heat if he came upon them during play time, and apparently that is what it can be termed. The Sandhills dance around in a circle, jumping about in the most grotesque way with outstretched wings and necks, continuing for lengthy periods, usually terminating the performance by a wild flight down the range. But the Asiatic white crane has two tricks which he performs with idiotic abandon and punctilious care. He selects some spot in the range, and bores a hole into the turf with his mandibles; standing over it he pumps his head up and down, until one wonders how long he can keep it going. If you go away and return in one hour, as I did, you will find him still at it. Again he seizes a feather in his beak and tosses it into the air, and as it falls leaps for it and catches it,

repeating the trick, as the keeper told me, for over an hour at a time.'

"These are queer birds," said Doodle, "the Crested Screamers."

"Their faces have a very surprised look," said Nora, "and they waddle so strangely. Where do they come from? And why are they called Screamers?"

"They come from South America," replied Doodle, "and they take their name from the noise they make. They are, as you see, something like geese, though their feet are not webbed. Strange to say, they can swim, though not very rapidly. They place their nests among the reeds and water-lilies. Sometimes their nests actually float on the water. The Screamers are very gentle towards one another and they pair for life! They use the four long sharp spurs on their wings only for their enemies, but the South Americans catch the birds and make them the policemen of the poultry yard. They feed and live on the best terms with the chickens and ducks and keep away the hawks. The Screamer's two peculiarities are its wonderful power of flight and its extraordinary song. Hudson says:

"'It loves soaring, and will rise in an immense spiral until it wholly disappears from sight in the zenith, even in the brightest weather; and considering its great bulk and dark colour, the height it ultimately attains must be very great. On sunny, windless days, especially in winter and spring, they often spend hours at a time in these sublime aerial exercises, slowly floating round and round in vast circles and singing at intervals. How so heavy and comparatively short-winged a bird can sustain itself

for such long periods in the thin upper air to which it rises has not yet been explained.

"'When disturbed, or when the nest is approached, both birds utter at intervals a loud alarm-cry, resembling in sound the anger-cry of the peacock, but twice as loud. At other times its voice is exercised in a kind of singing performance, in which male and female join, and which produces the effect of harmony. The male begins, the female takes up her part, and then with marvellous strength and spirit they pour forth a torrent of strangely contrasted sounds — some bassoon-like in their depth and volume, some like drum-beats, and others long, clear, and ringing. It is the loudest animal sound of the pampas, and its jubilant martial character strongly affects the mind in that silent, melancholy wilderness. The Screamers sing the year round, at all hours, both on the ground and when soaring; when in pairs the two birds invariably sing together, and when in flocks they sing in concert. At night they are heard about nine o'clock in the evening, and again just before dawn. It is not unusual, however, to hear them singing at other hours.'"

Walking a short distance south of the Ostrich House, they soon came to the Antelope House.

"I know what you want to see first of all," exclaimed Doodle, as they entered, "those two splendid Nubian giraffes. They came from German East Africa in 1907 and cost $5,500. These two animals are great favourites because they are gentle and good-tempered and are always in good health. How tall are they? Well, the male is 13 feet, 8½ inches high and the female 12 feet, 4½ inches high.

"They eat clover hay, raw vegetables cut into

The Nubian Giraffes.

very small pieces, bran and rock salt, and broken forage biscuits and they like to bite the tree tops."

"Why do they have such long necks?" asked Nora.

"They like to take their salad off tree-tops, and you can see how uncomfortable they are when they have to eat off the ground. Look at that one now bending his neck down. How awkward he is!

"Now, let us look at the Eland. The Eland is the handsomest and largest of all antelopes, but is now unfortunately nearly extinct. It used to roam over a great part of South Africa; but is now only to be found in Natal. The only captive herd is owned by the Duke of Bedford at Woburn Abbey; and the handsome male that you are now looking at came from this herd. He is named Duke in honour of the Duke of Bedford. He stands about six feet and weighs two thousand pounds. Those splendid horns of his are two feet and a half long.

"The White-tailed Gnu is also very rare. He is very peculiar, resembling an ox, a horse and an antelope. The White Bearded Gnu and the Brindled, or Blue, Gnu are also interesting animals.

"This is the place to see horns, let me tell you," continued Doodle, "this animal with spiral horns is the Addax; this antelope with curved horns is the Leucoryx; this one with straight horns is the Beisa, this one with tiny horns is the Nilgai from India. Among the rarest of these animals is the Beatrix Antelope, from the Arabian Desert; the Blessbok, a purple and white antelope from South Africa; and the nervous, peculiar Sing-Sing Waterbuck from West Africa."

They spent no time in the Small Deer House, situated next to the Antelope House, where are

sheltered and cared for many kinds of antelopes, gazelles and deer that are too small for the Antelope House and large ranges, because they were diverted by the amusing antics of the Prairie Dogs, whose little settlement lies on the other side of the road directly opposite to the Small Deer House. There they live — the gayest, maddest, merriest little imps possible to imagine, always whisking in and out of their burrows and then sitting on their mounds, happy as squirrels and as saucy as jay birds.

"Now there is a funny sight that you would probably never see in any other Zoological Park in the world," said Doodle as they continued walking westward, "half a dozen white Mountain Goats walking on the high peaked roof of their dwelling!"

"Where does this animal live, Doodle?" asked Jack.

"The White Goat comes from Montana, Washington and British Columbia, and these specimens all spring from the few that were captured on a tributary of the Bull River in 1905, a few days after their birth. They have lately shed their old coats and are consequently almost as white as snow. There is one queer thing about their hair — it absorbs water and holds it for hours, so whenever it rains they have to be taken in-doors, for if they get wet they are likely to die. Some of the goats are natives of the Zoological Park, descendants of the original herd of five. They are fed on clean crushed oats, sliced carrots and potatoes, all the clover hay they want, and an occasional apple. For amusement and exercise, they climb over the roof of their barn and they behave sensibly towards their keepers. Very estimable characters!"

Just opposite and on the other side of the road

extends the large Wild Fowl Pond, at the north end of which and beneath a large granite rock sheltered by many trees and bushes are the Wolf and Fox Dens which our party omitted to visit; and on the border of the Wild Fowl Pond and directly opposite the Mountain Goats is situated the Pheasants' Aviary.

"I think we still have time to see this fine Bird House," Doodle said, "with all its spacious runways. The pheasant tribe is one of the most beautiful of all families of birds. They are lovely in form and gorgeous of plumage. The most famous are the Reeves, the Amherst, the Argus, the Soemmerring, the Golden, the Silver and the Impeyan. The enormously long tailed pheasants are the Amherst and the Reeves. The Amherst pheasant is easily recognised by its very long tail and its cape of pure white feathers edged with semi-circles of black and steel-blue. The Soemmerring, sometimes called the Copper Pheasant, is a native of Japan. The Impeyan comes from the Himalaya Mountains, and is noted for the metallic lustre of its plumage which glistens in the sunlight with every shade of golden, green, blue, crimson and purple. The Jungle Fowl, the splendid Argus Pheasant, and the Indian Peacocks live in plains and hills and jungles of India; the Blood Pheasants and Eared Pheasants, in higher altitudes; and the Impeyans go for their food far up into the snows of the Himalaya Mountains — three thousand feet above the level of the sea!

"Pretty nearly all the web-footed gentry that we saw in the Duck Aviary and on Cope Lake, are also to be found at Wild Fowl Pond. This is the Nursery and Kindergarten of the wild-fowl. Many

nests are made here in the grass and reeds on the water's edge; and here all the downy little ducklings and goslings are hatched and take their first lessons in swimming.

"North of the Pheasants' Aviary, lie the Otter Pools. We really must stop here a few minutes to watch these charming and graceful little creatures at play.

"The Otter, being prized for its pretty fur, has been so pursued by the trapper that it is nearly extinct, especially in the north. It is still found in some portions of Florida and South Carolina. The Otters here came from Florida. 'Few people save woodsmen and naturalists,' says Mr. Hornaday, 'are aware of the fact that in a wild state the otter is a very playful animal, and is fond of sliding down hill over a wet and muddy slide, with a water plunge at the bottom, as any young person is of 'shooting the chutes.' Like the small boy with the sled and a snowy hillside the Otter sometimes indulges in its sliding pastime for an hour at a time, with a keen relish for the sport that is quite evident to all who have ever watched it. Better exhibition animals it would be difficult to find. They are good tempered and sociable and their playfulness in the water is very entertaining to visitors. Their love of water is equal to that of a seal, and the supreme nonchalance with which they dive or roll or drop into it a hundred times a day, is very amusing. Moreover, in contrast to most small mammals, they are most active when visitors are most numerous and attentive. Often when in their den, at a familiar call they will come pouring out in a shiny, brown stream, for a special performance.

For carnivorous animals, otters make very satisfactory pets, and often become quite docile, and even affectionate. The Otter is a carnivorous animal and in a wild state lives upon fish, frogs, crabs, young birds, small mammals, and, in fact, about any living thing which it can reach.' "

The children were so fascinated with the Otters that it was almost impossible to get them away. At length, Doodle succeeded in leading them down the path that brought them to the Camel and Llama Houses. Here they saw the old camel with two humps, the familiar camel of picture-books, the real *Ship of the Desert,* who had shed his shaggy coat.

" Now let us look at the camels of the New World," said Doodle, " the soft-footed, long-necked Llamas, Alpacas, Guanacos and Vicunias. These are called cameloids. The Llama is the camel of the Andes; the Alpaca is a little smaller and is bred for its wool; the other two, are the Guanaco and the Vicunia. The Guanaco has thick woolly and pale reddish hair. He comes from Patagonia, and is noted for his stupidity. The Vicunia is the smallest of the group and has comparatively short hair. He is found from Ecuador, through Peru to Bolivia. All of these animals are quarrelsome and cross and the males often indulge in terrible fights. When anyone of the cameloids flies into a passion, Mr. Hornaday tells us it will bite with the persistence of a bull-dog, and with its massive, chisel-like lower incisors inflicts ugly wounds. At times a llama or vicunia becomes actually insane, and seeks to destroy every living creature within its reach. Regardless of punishment, such creatures attack their keepers and their herd-mates, spit upon vis-

itors, and rage up and down their corrals in most absurd fashion. Occasionally such individuals require to be completely isolated."

"Oh, I wish I could see one get angry," said Jack, "can't we stay a little while longer?"

"I'm afraid we must be going," replied Doodle, "it is getting late and I'm afraid they are all in an amiable mood and will not oblige us. Besides we are so near the Crotona Entrance that I think we shall have to say good-bye to the animals. We haven't even time to visit the Elk Range that lies just north of us, which is a very pretty part of the Park with its oaks, maples and beeches and lake. The beautiful American deer — the Elk, the Mule Deer, from the Rocky Mountains, the Virginia Deer, the Woodland Caribou and the Lapland Reindeer all roam there. We really *must* go."

Passing out of the gate, they were fortunate enough to catch a trolley-car.

"I feel as if I had been through Noah's Ark," said Nora, when they had taken their seats.

"I feel," said Jack, in a superior tone, "as if I had been to the Garden of Eden."

"And I feel," said Doodle, "as if I had been to a great Emporium of Fashion. I am sure I have seen the latest styles in furs and feathers and skins; and I know the proper thing now in plumes and crests and aigrettes, and the correct width for stripes. Don't you remember the Grévy Zebra and the Tigers? and I know the latest sizes in spots — don't you remember the Leopards and the Jaguars? — and I have seen the most stylish necks for stylish collars — don't you remember the Giraffes? —"

"And Cobra hoods," said Jack.

"And Turkey jabots," added Doodle.

"And Boas for the neck," added Nora.

"And Gecko frills. And when it comes to the latest thing in side combs," said Doodle, "don't forget the Sardinian Mouflon and the other mountain sheep; but joking aside, I'd think I'd like to dress like a pheasant, or a peacock, or, perhaps, like the big blue Macaw we all liked so much."

"I think I'd rather be a tiger," said Nora, "with all those splendid stripes and beautiful topaz eyes."

"Oh, I shouldn't," said Jack. "I'll be one of the bears, or one of the giraffes,— oh, no! I won't either, I'll be the Jabiru, because he is so funny!"

"Perhaps you'd rather be a Kangaroo," suggested Doodle. "I've changed my mind, I'm going to be an *Otter.*"

And Jack, remembering the ecstatic happiness of the Otters at their games, looked terribly distressed to think he had missed such a glorious transformation, and that Doodle had appropriated it; and all the way home he was thoughtfully engaged in trying to reconcile himself to the fewer pleasures of the Marsupials from Australia, with whom he had cast his lot.

CHAPTER VI

A MORNING WITH THE PLANTS

IN WHICH THE HAPPY TRIO SPEND SEVERAL HOURS IN THE CONSERVATORY IN BRONX PARK SEEING SOME OF THE WONDERS AND BEAUTIES OF PLANT-LIFE.

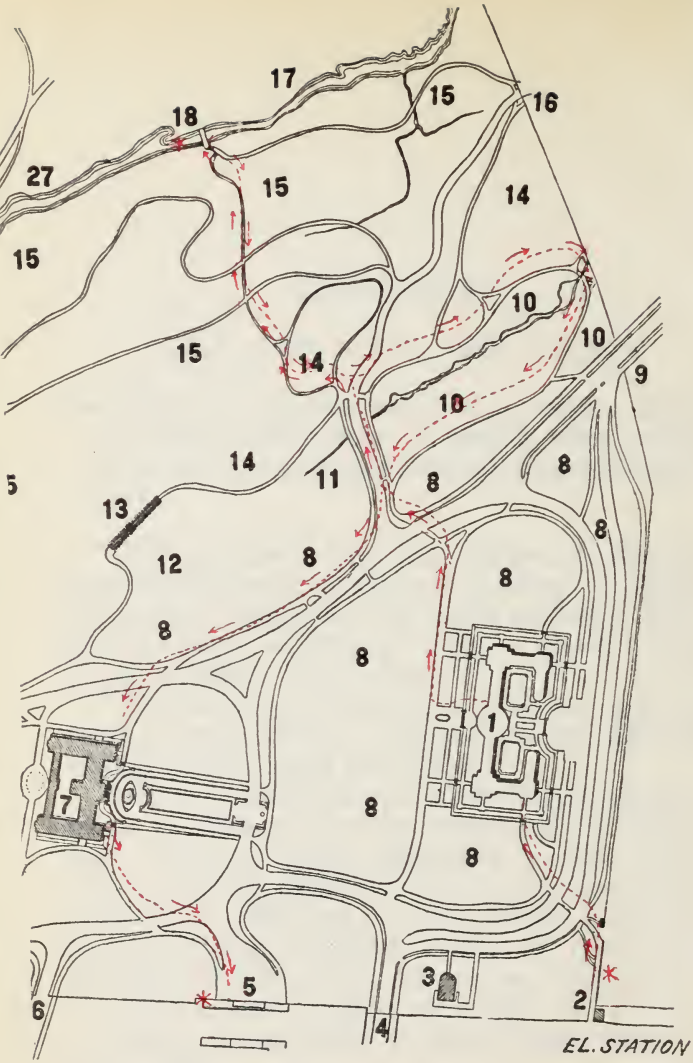
"Here we are," cried the children, as they entered Doodle's study one bright morning. "Mother gave us this basket; but she would not tell us where you are going to take us to-day. *Where* are we going, Doodle? *Please* tell us."

"We are going to the Botanical Garden and Museum in Bronx Park," answered Doodle, who was closing another small lunch basket.

"There we shall find two of the largest conservatories in America for the cultivation of tropical plants and the largest Botanical Museum in the world. Besides these attractions, there are special out-of-door collections of trees, shrubs, plants and flowers, a great Hemlock Forest of forty acres, through which the Bronx River runs, dropping over the rocks to form a pretty waterfall."

"And are we going to see all these things?" asked Jack.

"No," replied Doodle, "we could not possibly see everything on one visit because the Botanical



PLAN OF BOTANICAL GARDEN

DIRECTORY.

1. Public Conservatories, Range 1.
2. Elevated Railway Station.
3. Power House.
4. Bedford Park Avenue Entrance.
5. New York Central Railroad Station.
6. Mosholu Parkway Entrance.
7. Muesum Building.
8. Pinetum.
9. Southern Boulevard Entrance.
10. Herbaceous Grounds.
11. Morphological Garden.
12. Economic Garden.
13. Viticetum.
14. Deciduous Woodlands.
15. Hemlock Forest.
16. Bronx Park Entrance.
17. Gorge of the Bronx River.
18. Water-fall.
27. Bronx River.

Garden covers about two hundred and fifty acres of land; and if you and I could walk over it all, I'm sure that Nora would give out."

"Oh! I can do anything that Jack can do," Nora announced emphatically.

"You're not going to be a suffragette, are you Nora?" asked Doodle.

"What's that?" Nora inquired.

"I know," said Jack, "you fight to vote with the men and you have to wear short hair. I'll cut yours off now,—*snip, snip, snap!*" and, seizing the large scissors from the desk, Jack teasingly brought the blades together with three sharp clicks, as he waved them merrily and perilously near Nora's long brown hair, without, however, the slightest idea of harming it.

Nora put her hands up to her hair in horror and ran to the other side of Doodle, who went on unconcernedly:

"We are going to take the Third Avenue Elevated to the New York Botanical Garden and go through the big Conservatory, which is very close to the station; that will use up the morning; then we are going to the Hemlock Forest and have a picnic lunch near the Waterfall; and, after lunch, we are going to stroll through the gardens and visit the Museum. After that I suppose we shall be tired enough to go home. Moreover, as it is nearly nine o'clock, I think we had better start now and have as long a day as possible."

"Come on! Come on!" cried Jack, waving the smaller basket and excitedly leading the way.

The trip in the Third Avenue Elevated to Bronx Park seemed very short. It was only a step or two from the station to the big Conservatory; and, after

leaving their baskets in safe keeping, they began their trip through the various greenhouses.

"This first house," said Doodle, as they entered, "is devoted entirely to palms from the tropical regions of the Old World and the New."

The children looked around interestedly at the great display of green leaves.

"Because of their majestic appearance, elegance, grace and beauty, and also, because of their great usefulness to man, palms have been called the 'Princes of the Vegetable Kingdom,'" Doodle explained. "They are used for everything imaginable,— for building, for thatching roofs, for furniture, for making clothes, hats, fans, umbrellas, mats, baskets and even for writing-paper. Some varieties produce sugar, starch, flour, wax, oil, gum, wine, dye-stuffs, tannin, vinegar, thread and cord; from others, cooling drinks are made; and the stems and buds of some palms make delicious food. This one is the Cocoanut Palm, which grows in all tropical countries. It is a very handsome tree, and at home it reaches fifty or sixty feet and is surmounted by a crown of from sixteen to twenty leaves, each from ten to fifteen feet long. The nuts are hidden among the leaves. The natives of the tropics eat the cocoanut, ripe or unripe, drink the milk enclosed in the shell, eat the buds and parts of the stem, make palm wine and arrack from the sap, and cups and bowls and other utensils out of the shell. Then they use the fibre in various ways. They also get oil and soap and wax and candles from the tree and chew the root besides.

"The 'Palm of the Desert' is another fine, useful tree. It is a wing-leaved palm that grows about fifty feet high, in the fertile spots that are called

oases, and produces its fruit in bunches of twenty or thirty. This fruit forms an important article of food for millions of people. You know the fruit very well,— dates. Yes; this is the real Date Palm.

"From *this* plant, with its fan-shaped leaves, the expensive Panama hats are made.

"Now look at that group of Bamboo plants. The stems of the Chinese bamboo reach into the upper parts of the dome. These plants grow at the rate of eight inches a day and often attain the height of a hundred feet. After flowering, the stems die. The Bamboo is used in the East for many purposes. It is as useful as the Cocoanut. The natives use it for building houses and making fences; for water-pipes; for masts of ships; for paper; sticks; fans; and for furniture, and many utensils. The young stems and shoots are cooked and eaten and are said to be delicious.

"This next house (No. 2) is also devoted to Palms, so we will just hurry through to the third house, in which we find some of the large members of the Lily family and the Amaryllis tribe, with their splended red, white and purple flowers,— a family that is scattered all over the world. This one with the large white flowers is the Spider Lily.

"We cannot expect to find all of the 400 species of the Amaryllis family. There is very little family likeness between some of them. You certainly would never guess that the Narcissus and the Snowdrop were cousins of the American Aloe or Century-Plant,— would you? Well, they are,— and remind me that we must not forget to look at the Century Plant that they tell us will soon be in blossom.

"This plant is the famous Maguey of the West Indies, Central and South America. The thick fleshy leaves contain a large quantity of strong fibre known as Pita-thread, useful for making ropes, mats and other things. It is very spiny, as you see; and is, therefore, much used for hedges. The Maguey is a relative of the Century-Plant.

"Now we come to the *Dracaena* family and the *Sanseviera* family — in common words — the Dragon-plants and the Hemp-plants.

"Large tropical plants are housed in No. 4.

"This is the Arrow-root, from which a kind of flour is obtained. It received its name because the Indians applied the roots to the wounds that they received from poisonous arrows. The Maranta family, to which it belongs, comes from the West Indies, the East Indies and tropical America. Some of them have beautiful leaves,— don't you think so?

This is one of the most interesting houses. On the pillars climb lovely creepers, such as the Night Blooming Jessamine and the gorgeous Allamanda with its great cups of yellow kid, sweetly perfumed; other vines, you notice, are climbing over trunks of trees set as supports, among them the curious *Philodendron* that overruns the trees in the South American forests — that long name, translated, means *I love the trees!* In this house we must look at some of the big *Aroids,* which are relatives of our familiar Jack-in-the-Pulpit and the Calla-Lily that we also know so well. One of these Aroids, called Veitch's Tail Flower, is one of the treasures of the Conservatory.

"The Rubber-plants, you know; but the Fig-trees, you probably have never seen. Now we

come to four very interesting trees — the Banyan, the Pawpaw, the Bread fruit and the Chocolate.

"The Banyan belongs to the Mulberry family, and in India it grows to enormous size. It throws roots out from the branches which fall on the ground and grow up like pillars. The branches spread over these; and, after a time, a great big canopy is formed. One famous tree on the bank of the Narbuddah could shelter seven thousand men!

"The Pawpaw is valued specially for its fruit, which is long, or round, and yellow when ripe. This is a native of the West Indies.

"The Bread-fruit is also valued for its food. It grows about twenty or thirty feet high, with spreading branches and rough lobed leaves. The fruit looks something like a melon, or pine-apple, marked on the outside with a diamond pattern. The inside is white and tastes like wheat bread.

"The bark is tough and when beaten out can be made into a beautiful white cloth."

"Which is the Chocolate tree, Doodle?" asked Jack, who was particularly fond of chocolate.

"This one. It grows from sixteen to eighteen feet high and has broad oblong pointed leaves that are very thin. After its small flowers have blossomed, then there comes a pod from six to ten inches long, containing fifty or more seeds. When ripe, these seeds are covered with a kind of gum. They are taken from the pod, slightly fermented and dried in the sun. Then they turn a brown and are sold for Chocolate beans or nuts. They are roasted, split or broken, and are then called cocoa-nibs. When ground, they are called cocoa-powder and are made into paste with vanilla and sugar. The last is called chocolate. But wait a

minute — we have forgotten the Screw-pines, which come from the sea-shores of India and tropical islands. They look as if they were standing on props; and see their long sword-like leaves are armed with sharp spines! These leaves are made into baskets, mats, hats and other things. A kind of oil is also made from the flowers.

"Now for house No. 5, which is devoted to plants from desert regions. They have fleshy stems, or leaves, which absorb whatever moisture they can from the sand or rocks and store it up for future use, much as the camel does. Here are plants from South Africa, Mexico, Central America and our own great Western deserts. These are South African lilies — the Aloe, *Gasteria* and *Haworthia* — and here are some of those curious Carrion Flowers,— *Stapelia* is their botanical name. They are not only noted for their grotesque appearance and their beautiful starlike flowers (some of which are spotted and others variegated), but because of their terrible odour, so similar to decaying meat, or carrion, that blue-bottle flies actually lay their eggs in the flower, where the young grubs, after feeling about for food, die because they can't find any,— all on account of the mistake made by their stupid parent. The *Stapelias,* of which there are about a hundred species, come from South Africa.

"The Cactus family is one of the most interesting of all families of plants. Every member of the large tribe is peculiar and every one is covered with prickles, or spines. They have fleshy stems and no leaves. All produce beautiful flowers. The Cactus family is enormous: about eight hundred

species are known, and nearly all of them are natives of the New World.

"This group, for example, the Hedgehog Cactus, comprises about two hundred members. They are round, oblong, cylindrical, or ribbed, and are covered with stiff, sharp spines set in little woolly cushions. The flowers, which blossom at the top of the plant, are large and showy and are usually yellow, or pink. After the flowers have perished, then comes the fruit, covered with spines.

"Here are the Melon-thistles, or Turk's Cap Cactuses. You see all of these look like melons and all are supplied with bristles, or spines. At the top of the crown, the small pink flowers are produced from a mass of wool, and these flowers are followed by red berries. The Melon Thistles grow in rocky-places with very little earth; and in times of drought the cattle go to them to quench their thirst ripping them up with their horns to get at the inside. The berries are eaten by the natives in the West Indies, Mexico and South America.

"This group — the *Mammillaria* — has little cylinders, spirally arranged, which spring from a little woolly cushion. The tufts of spines are variously coloured; but are, as you see, usually white and yellow. The flowers are rose-pink, purple, red, or yellow.

"Here is the Old Man Cactus, with his long hoary locks; and here is the *Opuntia,* on which the cochineal insect, that supplies the red dye, is bred; and here are the members of the lovely *Cereus* family.

"The Night-Blooming Cereus is one of the most wonderful and beautiful of flowers. It opens only

at night and gives out the most delicious scent imaginable. Then after twelve o'clock, it slowly closes its petals forever, and becomes a most horrible object, covered with slime.

"The Prickly Pear blooms into large handsome yellow flowers all along the edges of the leaf. The flowers have a great many rows of petals and a fine rosette of stamens in the centre. The fruit is a kind of a berry, though very large, with hard little seeds buried in the pulp. The whole fruit is covered with prickly hairs to prevent undesirable animals from eating it. The birds, however, that break it up with their bills and scatter the seeds, are welcome visitors to the plant.

"The fruit is pear-shaped, about two or three inches long, and is green, yellow, or red, and covered with tufts of small spines. It is juicy and wholesome. It is also known as the Indian fig and has been naturalised in Southern Europe, and in Algeria and other places in Africa.

"The main object of the cactus's life is not to have its leaf eaten and to have its fruit eaten by the right bird or animal. So it takes all kinds of precautions to defend itself. Some varieties end their leaves with sharp dagger-like points such as the Agave; others bunches of prickles or needle-like spines, others have bunches of hairs that are very irritating to the sensitive noses of browsing goats, sheep or cattle.

"The Stone-Crops from Mexico and Central America and the House Leeks from the Old World behave just like the Cactuses. They usually grow in chinks of the rocks or thirsty sandy soil and have thick succulent little stems and leaves, that are sticky and moist, if you squeeze or crush them.

The Stone Crops drink up all the water they can by means of their roots and store it so that they will not wither when the hot sun beats down on them. Moreover, they are covered with an outer skin that prevents evaporation. The House Leeks often grow on the roofs of cottages, whence their name, and they can stand the suns without suffering. In Ireland, a patch of House Leeks on the roof is regarded as a charm; for the people think no house will ever catch fire if the House Leek is present.

"The next house (No. 6), is also devoted to desert plants,— mostly large ones. Here are varieties of the Century plants; and here are the thread-bearing Agave, and Queen Victoria's Agave. This is the Mexican *Huariqui,* from which green shoots issue in the rainy season and during the rest of the year it appears as if dead. Here are more Aloes; the Yucca; the Fig Marigolds from South Africa; and more Cactuses."

"What is this enormous stiff Candlestick?" asked Nora.

"This enormous stiff candlestick as you call it, Nora, is the Giant Cactus and it is often called in its native country, the Arizona Candle. When lighted, the spines burn readily and the flame runs along until it reaches the top of the great candle. Can you imagine what a forest of these look like? Hundreds of them sometimes grow on an acre of desert land rising to a height of fifty feet. The natives call it the *Sahuaro,* which means the 'giant cactus.' They use it for firewood and for building houses and fences."

"Does it have flowers?" asked Nora.

"Yes; large white waxy flowers, sometimes as

many as fifty on a single branch. They bloom in May and June; and about midsummer the stems are full of ripe fruit, which most travellers like. They eat the fleshy part that surrounds the numerous small black seeds. The Indians come on their ponies and knock down the fruit with long poles. They eat the fruit, and also make a drink of it and a kind of jam,— and, as for the birds, they are crazy about it. The woodpeckers, finches, thrushes and other birds have a great feast and it is by their aid that the seeds are scattered.

"The Giant Cactus also allows the woodpeckers and other birds to dig great holes in the branches in which they build their nests; and, when they have gone, the bats and owls often put up for a night in them; and the cactus-wren brings in some sticks and straws and sets up housekeeping.

"In No. 7 we find the Mimosa and Senna families. They fold their leaves in sleep as twilight approaches.

"This is the Sensitive Plant (*Mimosa pudica*) whose leaves fold at the least touch. This is the Mahogany, of which fine furniture is made; this, the Logwood valuable for its dye; and this tree, the *Balsam Copiaba*, is found in the South American forests, growing to about 80 feet. The liquid Balsam collects in the inside of the tree; and, to get it, the collector cuts a hole in the trunk and out gushes the liquid at the rate of about a pint a minute. In a few hours the flow is over. The liquid is stored in hollow trees, floated down the rivers and shipped to Europe and North America, where it is used for medicines and perfumes.

"Here is the Tamarind, valued for its fruit, a wing-leaved tree of the bean family, and here are

the Custard Apples, natives of the West Indies and tropical America; here is the Mammee Apple; here is the Chenille Plant, also called *Philippine Medusa*; here is the plant that bears the Barbados Nut; here are the splendid showy Crotons, members of the Spurge family; here are some Cactuses that grow on trees in the tropical forests; and here are some members of the Ginseng family from Manchuria. The Chinese use the Ginseng as a medicine. Its forked root has a curious likeness to the human body, and so they think it can cure every disease.

"This house (No. 8) we will pass through quickly: here are some Begonias; various members of the Potato family; the African Violet; and the Ramie-plant of China, from which the 'grass cloth' is woven. The next house, devoted to the water-plants is much more attractive. How pretty this pool looks from the bridge and what a fine display of grasses and graceful Bamboo plants! Do you know what that tall stalk is over there?"

"I don't!" said Jack.

"Nor I," added Nora.

"That is the Sugar-cane, from the stalks of which sugar is made. The sugar-cane is a kind of grass like bamboo. Among the sedges that one over there is the Papyrus Reed from which the Egyptians made paper.

"How lovely the Water-Lilies are; there are the Water Lettuce, the Water-Poppy, the Water-Hyacinth, the Water-Snowflake, the Parrots-Feather and the Floating Fern.

"Now for the next house (No. 10). Here is a family we all know — the Aroids — the Calla Lily, the Sweet Flag, the Skunk Cabbage and Jack-in-the-Pulpit are all Aroids. We saw some larger

members of this family in House No. 4. We must notice these Pineapples; and now look at those hanging baskets! What do you see in them?"

"Why they are little pitchers!" exclaimed Jack.

"Yes; these are the Indian pitcher-plants — Nepenthes. In their native haunts, they are vines that grow on trees, and their leaves are shaped like pitchers with lids: they hold water and secrete a sticky juice that digests the insects that fall or crawl into the pitchers, and it is strange that all the hairs point downward so that the insects have to tumble in. People used to think that the pitchers were the flowers; but the flowers are very small and grow in clusters. There are many other varieties of pitcher-plants and plants that catch insects: we shall find some others presently.

"In the next house (No. 11) we see some taller Pineapples, some Bananas, and members of the Ginger and Canna families. Here is the *Musa textalis* from the Philippines, that produces the Manilla hemp, and here is the Ginger Plant.

"Now here is an interesting thing,— the Traveller's Tree from Madagascar."

"Isn't it a kind of palm?" asked Jack.

"Yes; and it grows to about thirty or more feet. The broad leaves of the plant collect rain water which trickles down the leaf stalk and collects at the base; and all the traveller has to do is take his knife and pierce the stalk. The water gushes out, and he gets a refreshing drink.

"In this house the chief plants to interest us are the *Strelitzia* tribe from South Africa. One of these is called the Bird of Paradise Flower, and here it is."

"Hello! another Pitcher-Plant," exclaimed Jack,

glad to discover an old acquaintance, as they entered House No. 12.

"Yes; this has a lip something like a pitcher; but the tube is tall and lined inside with hairs. It is also a carnivorous plant and attracts the insects, which die in the sticky juice and are gradually dissolved and absorbed by the plant. These are also called Side-Saddle flowers, because the petals of the flowers hang down like a lady's riding dress.

"Here are some more insect-eating flowers, the Sundews, a most peculiar and interesting family. Their leaves are all furnished with small hairs, each one of which discharges at its tip a drop of thick acrid juice; and these leaves are so sensitive, or, as botanists say 'irritable,' that the leaves close together or contract when touched. If a fly, or other insect, alights on the leaf, it closes together and imprisons it. Then the plant actually digests the insect by means of some kind of special juice.

"Another insect-eating plant is the Venus-Fly-Trap, a native of North Carolina and a relative of the Sundew family — an American cousin. The leaves, as you see, rise from the centre in the form of a rosette; and each leaf is in two parts, or lobes, and each lobe is fringed with tiny hairs. The insect barely alights on one of these lobes,— when *snap*, the two parts shut as if with a spring, and the hairs interlace, just as your fingers do when you clasp your hands together. The sticky juice absorbs the fly which is food for the plant."

"I call that an easy way of going to market," said Jack.

"This plant from Southern Africa is called *Agathosma apiculata,* and its leaves secrete an oil that is disagreeable at times. The Stinking Cedar,

from the Apalachicola River in Florida is a kind of yew. After we have looked at the Grevilleas and Hakeas from Australia, we will go into House No. 13."

"Have we been through twelve houses already?" asked Nora. "I never should have thought it!"

"We will pass by the Yews, Pines and Myrtles to look at this tall Bottle-Brush Tree and these Gum trees from Australia and Tasmania. The latter are the Eucalyptus, which grow sometimes to a height of 200 or 400 feet. The Camphor Tree is found chiefly in Sumatra and Borneo, where it grows as high as 90 feet."

"Is this the camphor that we put up our clothes with from the moths?" asked Nora.

"Yes; the camphor is a gum. The tree is cut down and chopped into blocks; and the camphor gum is found in the fissures of the wood,— white and clear."

"I love the smell of it," said Jack.

"The beautiful Camellia, belongs to the Tea family," Doodle went on explaining; "and now we come to the Tea Plant itself."

"What! The tea we drink?" asked Jack, very much surprised.

"Yes; and I am going to tell you a story about it, — the story the Chinese tell regarding its origin.

"Once upon a time a devout and pious hermit during his wanderings became very, very sleepy while he was praying to his god, and was nearly overcome. But just as his eyelids closed, he tore them from his eyes and threw them on the ground. The god was so pleased that he immediately caused the tea-plant to spring up out of them, the leaves of which are in 'the form of an eyelid bordered

with lashes and possess the gift of hindering sleep.'

"We have not much time to spend upon the Australian Acacias; the Fig-tree; the Oleanders; the Olive; and the Yellow Jessamine, one of the sweetest flowers that ever grew, is not in bloom. We must come here next February to see its sweet pretty bells.

"The Fan-Palm of the California desert and the Palmetto of our southern states are also interesting.

"And now for the next house (No. 14) in which are the Rosemary plants, some interesting members of the Thistle Family, and the Parachute flower from Natal, that sends its seeds off on the breeze like little balloons. Now we come to the Orchid House (No. 15).

"The only plant in this house that is not an orchid is that fine palm on the central bench. It is one of the rarest palms in cultivation and is called the *Coco de Mer* — the Sea Cocoanut — and also the Double Cocoanut. It is a native of the small group of islands in the Indian Ocean, called the Seychelles, where it grows a hundred feet high and is crowned with fan-shaped leaves. The fruit is a long, oblong nut; and, when the outer rind is removed, the inside looks like two nuts. Carried by the sea to distant shores, people who had never seen the fruit growing, thought it was produced on some tree under the sea, and called it *Coco de mer* in consequence. The nuts grow in bunches, nine or ten nuts in each bunch, and which often weigh as much as four hundred pounds. The natives use the shell for various articles and make hats and baskets out of the leaves."

"What are orchids, Doodle?" asked Nora.

"Orchid is the name given to a very large, peculiar and fascinating family of which there are more than five thousand species. With a few exceptions that grow in the groves, meadows and marshes of Europe and North America (Jack-in-the-Pulpit is one), they are natives of tropical countries. They love to grow in hot, damp places and in dense jungles. Some of them, indeed, do not need any soil for their growth; but cling to the branches and trunks of the trees, or to stones and crags. These are called air-plants, and in the hot-houses, as you see here, are cultivated on blocks of oak or other wood, with or without moss about their roots.

"Orchids are the most fantastic of all flowers and have the queerest habits. The blossoms are strange in form, beautifully coloured and most of them deliciously scented, like the Vanilla, for instance which — here it is — is an air-plant. One peculiarity of the Orchid is that it has one largely developed petal, a kind of under lip, which is not only bigger than the other petals but always more beautifully coloured, spotted or splashed, than the rest. Botanists say that it is decorated and arranged to attract the insect. The latter always alight upon it — a sort of door-step to the flower, that attracts the wished-for visitor."

"Why does the orchid want to attract the insect?" asked Nora.

"The orchid wants the insect (generally a bee) to carry the pollen off to some of the other orchids in the distance; and attracts him with the beautiful colours and scents and honey; and when the insect alights and pushes his furry little body into the flower, some of the pollen rubs off upon the insect's

Court of the Public Conservatories (Range 1).

back, or on his twiddling feelers, and off he goes with the pollen. Some of the orchids are so anxious to have the insect enter their cups that as soon as he alights on the doorstep, or lip, the doorstep gives a kind of spring and shoots him down into the flower."

"I never heard of such a queer thing," said Nora.

"If all these orchids were in bloom," said Doodle, "we should see a great variety of strange shapes. Some would look like butterflies; some, like big moths; some, like snakes, toads, lizards, bees, flies, spiders, or dragon-flies; some, like helmets, swords, spurs, slippers, arrows, caps and heads; and some, like birds — even to the imitation of the feathers. Some strange ones resemble swans, with proudly swelling necks, and others a pure white dove hovering in the centre of the snowy petals. Here is a butterfly, with yellow wings dotted with brown spots,— and here is a crimson grasshopper! Did you ever know that there were such peculiar flowers?"

"How did they get all these orchids, Doodle?" asked Jack.

"That is a very interesting question, Jack. They were collected at great cost of time, money and hardship. The orchid-hunter has to be a very brave man. Orchids grow, as I told you, in very inaccessible places, in the depths of dark, damp, hot jungles, where the hunter has to cut his way through the tangled mass of foliage and ropes of vines,— in some cases where man has never set foot before. Often, too, he has to seek for his plants among savages, or half-civilised tribes that resent his intrusion. Sometimes he has to wade through stagnant swamps, be on the watch for wild beasts, such as

tigers and panthers and pumas, and guard against the bite of poisonous snakes, lizards, spiders, ants, flies and other insects that he cannot distinguish in the dense jungle from the leaves and sticks and blossoms. You have seen some of the snakes — the Boas and Bush-masters and Anacondas in the Reptile House in the Zoological Park. So terrible and fatal are the dangers, that many a daring orchid-hunter loses his life, or falls ill with some dreadful fever and dies.

"When an orchid-hunter sees a flower that he wants, there are three ways to get it: he may cut down the tree to which it clings; he may lasso the branch on which it hangs; or he may climb up to the orchid,— but if he does this he is often confronted by the head of a venomous snake among the leaves and millions and millions of angry ants make a dash at him.

"Then, too, it is a disappointing business, because, after months and months of searching and the patient gathering of many specimens, they may be lost on the way home, or hurt in some way. I have heard of one hunter, who, after months of searching, got four thousand rare orchids together; and on the way home a fire broke out in the ship's hold and burned every one of them! Another time a collector spent a year in the Philippines, with a hundred natives and secured a thousand plants; but not one survived; and on another occasion twenty-seven thousand beautiful orchids were collected and only two lived. No wonder that these specimens are highly prized and are valued at thousands and thousands of dollars!"

On their way out the party stopped at the Conservatory Court to see the large Century Plant.

"That tall stalk in the centre, which is now about eight feet high, is growing at the rate of two inches a day," Doodle explained, "and when it becomes about twice as high as it is now, it will flower. People used to think that the Century Plant bloomed only when it reached the age of a hundred years and that when it blossomed it made a noise like a gun. Now botanists say that it flowers at the age of forty or fifty years, and dies immediately afterwards. In Mexico, the Century Plant is used for fences, and from it the national drink, Pulque, is made.

CHAPTER VII

A PICNIC BY THE WATERFALL

IN WHICH JACK AND NORA ENJOY A FEAST IN THE HEMLOCK FOREST AND LEARN THE QUEER HABITS AND OUTRAGEOUS CONDUCT OF SOME MEMBERS OF THE VEGETABLE WORLD; AFTER A STROLL THROUGH THE GARDENS AND THE BOTANICAL MUSEUM, RETURN HOME, QUITE TIRED AFTER A LONG AND HAPPY DAY.

"Now we will get our baskets and stroll down to the Hemlock Forest," said Doodle, "and have our luncheon by the Waterfall. This path leading between the Morphological Garden and the Herbaceous grounds and through the Woodlands will certainly bring us there,— that is, if this map is to be trusted. What do you think?" and Doodle handed the map to Jack.

The latter, looking at it earnestly for a minute was quite satisfied with the diagram's good intentions; and so they wandered along enjoying the pretty scenery; the hot smell of the grass and trees; and the bright sunlight; and even the sharp, sizzling call of the locusts.

"I didn't know it was such a *big* Waterfall," said Nora, when they reached this charming spot, where the Bronx makes its leap over the rocks.

"Here is a jolly place for us to sit!" cried Jack, who had run on ahead and discovered a big boulder

comfortably provided with ledges and corners, "and now let's open the baskets. I'll take this one! May I open it?"

"I think," said Doodle, nodding assent, "that we have seen everything that we have brought with us growing in its original state except these dainty sandwiches that your Mother made, for we haven't seen any wheatfields and we haven't seen any pigs or chickens."

"I haven't seen any napkin plants," laughed Nora.

"We can see the flax out of which linen is made presently; and you certainly saw the bananas growing, and the beans out of which this cake of sweet chocolate was made," replied Doodle, unpacking the other basket, "and the figs and the dates —"

"Oh! what's this!" interrupted Jack, as he took out of his basket some round yellow cakes, thin as wafers.

"Aha!" said Doodle. "Guess!"

"I can't! I give it up," said Jack.

"Cassava bread," answered Doodle, "made from the Manihot, one of the Spurge family you saw in the Conservatory."

"Does it grow like bread-fruit?" asked Nora.

"No; this is made from the roots. The natives of the West Indies and tropical America grate the fleshy roots, then pound the mess into a kind of flour which they make into cakes. People eat Cassava bread a great deal in those countries."

"I like it," said Jack, taking a cautious nibble at one, and then looking at it critically.

"So do I," said Nora, munching away industriously at hers.

"Here are some lemons," continued Doodle,

"and some sugar (you saw the lemon-trees and the sugar-cane) and here are two little glasses and Jack's folding-cup. We will have some lemonade ready in a minute. Nora, will you please squeeze the lemons, while I get the water?"

"How I love picnics!" and Nora gave a delighted sigh of contentment.

"I don't," said Jack airily. "I hate 'em," which was his peculiar boyish way of getting rid of his enthusiasm.

"Well you have seen a great many plants," said Doodle, while they were enjoying their lunch "and now you know that there is a great world of plants. Plants seem to have two ideas and they struggle with might and main to accomplish their objects. The first is how to nourish and take care of themselves; and the second is to have a large family. So the first thing they do is to grow strong and healthy and keep well — everything that you have to do, except run and play. They can't do that, poor things!"

"Poor things!" laughed Nora.

"They don't have to do one thing that we have to do," sighed Jack, "and that is *go to school.*"

"They may not go to school," said Doodle, "but they certainly are very wonderfully educated."

"*Educated!*" exclaimed Nora and Jack in astonishment, "what do you mean, Doodle, how educated?"

"I will tell you a few facts about plants; and then you can tell me if you don't think they have learned a great deal in Nature's great school.

"To get strong and keep well, then, they have to feed and drink and sleep and breathe the proper air and get the right amount of sunshine or shade and

sleep and keep a sharp look out against their enemies."

"Sleep and eat!" exclaimed the children.

"Generally speaking, they feed through their leaves. On the under side of the leaf are many little mouths, or cells, which absorb the air and digest it, so to speak, taking in the carbonic acid, which the plant wants, and giving out the oxygen, which it does not want. Now animals and people do the opposite. We breathe the oxygen and reject the carbonic acid; and, so, you see, there is a kind of bargain or agreement between us. To be healthy, the plant has to have sunshine; and the most perfect plants are those which have the leaves so arranged that each and all get as much sunlight and air as possible.

"After feeding in the sunlight and air all day, the plant rests at night, often folding its leaves together. You may have seen the clover do this. Some plants also sleep in the day time, turning their sensitive leaves edgewise to the sun.

"Now in order to get the light and air which is food for them — except those insect-eating plants that we saw — they behave most outrageously; and while I want you to admire the beauties and wonders of the vegetable world, I do not want you to admire the selfish and reprehensible character of plants. They will condescend to commit every mean action, underhand trick, and wicked deed."

Jack and Nora opened their eyes very wide.

"In the Brazil Nut, fifteen or twenty seeds germinate at once and the strongest gets through a little hole in the top and strangles and feeds upon all its sisters and brothers! What do you think of *that?*

"I know of another plant[1] that produces a great many seeds and the vigorous seeds go to work and kill all the weak ones. What do you think of *that*?

"And I know of another that[2] grows up from a seed dropped on a certain tree, sends its long root into the soil and presently *chokes and strangles its foster mother!* What do you think of *that*?"

The children looked horrified; but soon Nora, with a twinkle in her brown eyes, asked: "Don't you know of any plants that have better manners?"

"Yes, I do," answered Doodle, "and kinder hearts. My plant acquaintance isn't restricted to bad characters. Many plants take great care of their little ones, for instance. They don't go so far as to buy pretty cradles draped with silk and lace for their babies; but they certainly do wrap them up in the softest, nicest downiest leaves you can imagine and provide sunshades and umbrellas to protect them from too much light or too much rain. Some of the large-leaved palms — those that we saw in the Palm House (fourteen feet long) tie the young ones in at the base of the leaf for the sake of protection; the young buds of some tropical trees hang downwards, so as to expose the least surface to the sun; and some plants place prickles and spines, sticky gum, or a globe of sap, around the tiny child.

"On the other hand, some plants, like the Wild Carrot, for example, (you see I am constantly thinking about my bad acquaintances) produces so many seeds that the parent doesn't care if hundreds of its offspring die, because plenty are left to carry on

[1] The *Herculeum giganteum.*
[2] The *Ficus parasitica.*

The Waterfall in Hemlock Grove.

the family name and traditions. Now what do you think,— are plants educated or not?"

"What *I* would like to know," said Jack, "is, who taught the plants to do all these things."

"And so should I," said Doodle, "very, very much. My watch, however, says that we shall not have very long to stay in the Museum unless we hurry away; and, besides, we want to go back by way of the Herbaceous Grounds."

Retracing their steps along the same path by which they reached the Waterfall, the three then encircled the Herbaceous Grounds. In this systematic plantation the plants are grouped by natural families in botanical relationship. Through this pretty valley, moreover, runs a small stream, which here and there widens into pools; and along the stream, or in it, many aquatic plants are to be seen.

Doodle thought it best to begin where the series of beds starts in the southern corner of the valley, at the foot-path entrance where the hardy ferns are planted. In the neighbouring pond are cat-tails and reeds; and, following to the north, comes the large group of grasses, such as the Timothy, Kentucky blue-grass, reed-canary grass, the Japanese plume-grass, the ribbon-grass and the sweet vernal grass that has such a pleasant odour when bruised; then come the sedges and the bullrushes; and then the arums, including Jack-in-the-Pulpit and the sweet flags.

Next the rush family; the lily family, with their relatives, the onions, for neighbours; the amaryllis family; and then the iris family, with all the pretty varieties of blue and yellow flags, claimed their attention.

Crossing the brook they now came to the beginning of the sequence of plants with net-veined leaves — nettles, wild ginger, buckwheat, docks, rhubarb and the goosefoot family; next the amaranth family, including some of the commonest weeds of our roadsides, one of which was the Four o'clock, the flowers of which opens in the afternoons. Three beds of pinks happened to be in bloom; and then in the first big pool here also some of the water-lily family — yellow ones, white ones, pink ones. Among the beds westward they saw some larkspurs, columbines, buttercups.

"Columbines for me!" cried Jack as he spied the lovely scarlet bells, for which he had a great fancy.

"Now let us look for the poppies," said Doodle, "and here they are — from Japan and Mexico and many other places; and as we are not very far away from the roses, suppose we see if in the five beds devoted to the Queen of Flowers there are any in bloom!"

Not far from the spurges they found the flax plants, from the fibre of which linen is made; but time being short Doodle concluded not to walk further afield to see the mallows and hollyhocks, the rock-roses, the primroses, plumbagos, milkweeds, phloxes, mint, foxgloves, plantain family, bell-flower family and the cardinal flowers; but passed to the great thistle family, which includes the splendid sun flowers.

"If I were going to have a garden," said Nora, "I would plant it with fairy flowers, entirely. I would have nothing in it but fairy flowers."

"So would I," said Jack, "what can we plant, Doodle?"

"Roses first, plenty of roses, and honeysuckle,

violets and wild thyme and plenty of cowslips — Ariel used to lie in a cowslip's bell, you remember; and don't forget the foxgloves and plenty of ferns; and you can have four-leaved clovers, and tulips — faries rock their babies in the cups of the tulips — and —"

"Some toad-stools and mushrooms for tables!" cried Jack, "fairies always sit at mushrooms and toad-stools at their parties."

"Oh, of course!" replied Doodle, "and wherever the fairies dance, the green grass rings will spring up; and oh, by the way, don't forget an elder bush, for at twelve o'clock on Midsummer Night the King of Fairy-land will pass under it, as sure as you live; but whatever you do, don't plant any yellow flowers because fairies abominate yellow flowers."

"Oh! what shall I do?" exclaimed Nora, "for I love yellow flowers so dearly."

"Do they like red, Doodle?" asked Jack, with much concern. "Red's my favourite colour."

"Oh, yes! They like the cowslips because they are speckled with rubies, you know; and rubies are red. But here we are at the Museum."

Pausing to look at the bronze fountain that adorns the approach to this building and to rest a moment or two on the marble seats, they entered the main floor of the Museum, which is devoted to the exhibition of plant products that are useful to man.

"We saw useful plants growing in the Conservatories this morning," said Doodle, "here we can see what articles are made from them. This whole floor is devoted to foods, fibres, drugs and woods. All that big East Hall and East Wing contains cases

full of drugs and North American woods. I think, however, we will not trouble to go through it; and so we will quickly look at the fibres (cotton, linen, hemp, etc.) in Sections 1-3 in the West Hall; at the India-rubber, with the implements and utensils used in collecting 'rubber-milk' from the tropical trees (Section 4); spices and flavouring extracts — ginger, cinnamon, cloves, pepper, etc. (Section 5); tanning-materials, fodder-plants, tobacco and other chewing plants; chocolate, coffee, and other beverages; and oils, starches, cork, paper and sugars (Sections 5-11). The last three sections (12-14) in the West Hall are occupied by foods.

"So much for this floor. Now let us go upstairs. Here we find specimens, drawings and photographs of all the natural families of plants, beginning with the simplest and ending with the most complex ones. So here is displayed in one way or another the whole plant-world.

"These cases will interest you. I think — the Sea-weeds — brown ones, green ones, red, pink and purple ones; and next to them we may glance at the *fungi*, which include mushrooms and lichens; and then at all the mosses and ferns; and now we come to the flowering-plants (Cases 56 to 128) and the fruit-bearing plants. But we can't stop here, any longer, for it is getting late. Suppose we go into the basement to see the fossil plants." The children were of course willing and Doodle told them that thousands and thousands and thousands of years ago, before man appeared on the earth, the trees and plants and flowers were growing all over the world; and that their leaves and stems and trunks falling on the sands and mud left their impression.

The Museum Building.

In the course of time, the sand and mud were covered over by other layers of sand and mud and after a while turned to solid rock. Some of the plants long ago turned to coal, and that rocks with these impressions are called fossil rocks.

"We will begin at the first case to the left as we enter," said Doodle. "Now these fossils that we see in cases Nos. 1 to 4 were originally marine plants that turned to coal; and we also find here the earliest fern-plants; cone-bearing plants, like cedars and firs; and seed-bearing plants. In case No. 5 the plants are mostly sago-palms, or cycads, fern plants and cone-bearers; in No. 6 plants of a later period are shown — those that bear seeds are becoming more numerous in this age (they are called Angiosperms); but the ferns and cone-bearers are still growing. Now we cross over into the other side of the hall, where Nos. 7 and 8 exhibit what is called the Middle Cretaceous Flora; in No. 9 are plants of the Upper Cretaceous; and in Nos. 10 to 12, the Neozoic, early Tertiary, Eocene, Miocene and Quaternary plants. We will look up these hard names the first rainy day when we sha'n't want to go anywhere and I have many pictures that will show you what the earth looked like when these plants were growing. All these fossils, however, show us that our earth was first covered with sea-weeds; then came ferns and club-mosses; then the cone-bearing trees, such as pines and firs; then the plants with one seed-leaf, like the palms and cycads; then the grasses; then the flower-bearing plants; and then, last of all the insect-fertilised plants with the most beautiful flowers of all.

"Butterflies have been found in fossil-rocks, just

about the time that the flowers and plants that we see in cases Nos. 10 to 12 appeared; but scientists believe that bees, wasps, beetles, ants and other insects were in existence before the butterflies and moths came. The fossils in Nos. 11 and 12, show us that our earth wore a beautiful garment thousands of years ago. Trees, shrubs, grasses and flowering plants were abundant. Blossoming magnolias, plum, hawthorn, almond and tulip trees and flowers with starry crowns like daisies, dandelions and sunflowers were scattered all over the world, while on the ponds and rivers lovely water lilies opened their cups to the golden light of the same sun that shines to-day.

"There, they are beginning to close the Museum — it is five o'clock and we shall have to hurry if we want to catch the next train."

"I think we can do it," said Jack.

Hurrying to the station they were fortunate enough to arrive just as the train came puffing along; and were, therefore enabled to reach home before dark.

CHAPTER VIII

A VISIT TO THE NATURAL HISTORY MUSEUM

IN WHICH NORA, JACK AND DOODLE SEE SOME VISITORS FROM THE STARRY SKIES; CURIOSITIES OF THE SAVAGE RACES; ARTICLES FROM THE NEIGHBOURHOOD OF THE NORTH POLE; MAKE THE ACQUAINTANCE OF GIGANTIC MONSTERS OF PRE-HISTORIC TIMES; AND SEE MANY OTHER THINGS OF INTEREST.

"What are we going to see here?" the children asked Doodle, as they approached the entrance of the Natural History Museum on 77th Street between Columbus Avenue and Central Park West.

"We are going to see some things that will help us understand the history of our earth. We have seen fishes at the Aquarium; birds, animals and reptiles at the Zoological Park; trees, plants and flowers at the Botanical Gardens;— now we will learn something about the strange creatures that lived on our globe before the days of man. We saw the impressions of a few fossil plants, you remember, in the great slabs of rocks in the Botanical Museum the other day,— well, to-day we are going to see some fossil animals; we are also going to look at the Indian and Mexican and Eskimo articles; and the stuffed birds and animals;— oh, I don't know what else. We will just walk through

the different floors and stop at what strikes our fancy. Here we are."

Passing under the stairway, they found themselves in the big Foyer.

"I think they might have found something prettier to put in this room than those old black stones," said Nora, as she cast a quick glance around the Foyer, in which the meteors are exhibited.

"Did you ever see a shooting-star?" asked Doodle.

"Oh, yes! lots of them," the children replied; "but what has that got to do with these old stones and rocks?"

"A very great deal," Doodle responded, "all these stones and rocks that you see here were once shooting-stars!"

The children looked incredulous.

"Come, let us find a quiet seat," said Doodle, "and I will tell you all about them.

"Our earth travels around the sun in a circle or orbit,— the same old road year after year; and, as it rolls along, sometimes it comes into contact with other bodies that are also travelling around the sun. Sometimes these small bodies, or pieces of matter, are attracted by us — we being so much larger — and they come into our atmosphere and fall upon us. As they come into our atmosphere, the immense speed at which they are going and the heat we give out produces incandescence, and the outside of the meteor becomes liquid. As the shooting-star dashes along, leaving a great stream of fire behind it — a real fiery tail — naturally it gets smaller as its head burns up, and it sometimes becomes all tail and falls to the earth in a

shower of dust; or, it dashes along outside of our atmosphere — goodness knows where in the starry skies — or it explodes and falls to earth in a shower of small stones, or in great big blocks like those in the Foyer."

"Do they always fall in the same place?" asked Jack.

"Oh, dear no! Meteors fall anywhere: chiefly in the ocean; for there is so much more water on our globe than land, you know. These, of course, we never hear from; and many others fall in remote places, and we never hear of them, either; but meteors often drop upon inhabited places, too. In ancient times people thought the stones that fell from the sky were sent directly from the gods, and, therefore, they placed them in temples and worshipped them. The image of the Goddess Diana at Ephesus was probably a meteorite because it was said to have 'fallen down from Jupiter.' The idol of Venus of Cyprus was another meteorite; and people think that the great black rock — the Kaaba — that the Mohammedans reverence at Mecca, was originally a shooting-star.

"A meteor cares very little where it falls. It drops with the greatest indifference into the sea, into the centre of a field, into the side of a mountain, or into a flowing river. One might fall on top of this building, or on top of the house you live in at any moment. Why, only a few days ago (Aug. 13) a perfectly round meteor weighing about five pounds, dashed out of the sky with a sharp hiss, crashed against the blind of a house in Montrose, Mass., set the house on fire and fell to the ground, where it was found."

"Do they fall often?" asked Jack.

"People say," Doodle answered "that from fifteen to twenty millions of meteors enter the earth's atmosphere every day; but very few reach the earth."

"What happens to them?" asked Nora.

"They are simply burned up," Doodle explained. "All we see is a trail of light across the sky. There are now seven hundred meteorites known, and these are in museums and private cabinets. Not one in a hundred million of the shooting-stars reaches the earth in a recognisable mass."

"Can we see meteors whenever we look for them?" Jack inquired.

"You can see shooting-stars almost every evening," Doodle answered, "but there are great showers of them in August and November. The November meteors are often called Leonids because they are usually seen in the direction of the constellation of Leo, the lion; some people think that our earth goes through a little belt of meteors at this season."

"I will look for some this very night," said Jack.

"Now you understand," continued Doodle, "what makes these black stones so interesting to us. They are visitors from regions beyond our own atmosphere — visitors from space beyond our world; and it is also interesting to know that these pieces of matter are composed of the same ingredients as our own rocks."

"What are they made of?" inquired Nora, opening her eyes very wide.

"First, iron in very large quantities; then oxygen, silicon, magnesium, nickel, sulphur, calcium and aluminum. The other elements found in meteorites are carbon, chlorine, chormium, cobalt, copper,

The American Museum of Natural History.

hydrogen, manganese, nitrogen, phosphorus potassium and sodium. Then, too, in some meteorites other ingredients are found that do not exist on our earth. Diamonds are found in them sometimes. Canyon Diablo, over there, contained a diamond. You can see the spot from which it was taken. Run over and look at it, and then come back."

The children did so, and when they had returned, Doodle explained to them that there are three kinds of meteorites; first come Siderites, or iron meteorites composed chiefly of iron; then, Siderolites, or iron-stone meteorites, which are a kind of nickel-iron sponge, full of stones; and lastly, aërolites, or stone meteorites, which are made of stones with grains of nickel-iron scattered through them.

"Now let us go and look at those black masses that once were dazzlingly beautiful shooting-stars," said Doodle, rising and leading the way back to the Foyer. "This one, Ahnighto, is the biggest meteorite in the world — that is to say, the biggest one we know of. Explorers who went to Greenland used to be much surprised to see the Eskimos with knives and other weapons made of iron, because it was known that there was no iron in Greenland; and when asked where they got it the Eskimos used to say 'From the Great Irons.' For hundreds, and, perhaps, for thousands, of years these three big meteors lay on the north coast of Melville Bay near Cape York, and the first white man to see them was Commander Peary who persuaded an Eskimo, named Tallakoteah, to take him to them in 1894. This big one was known as The Tent; this one, the Woman, because the Eskimos thought it looked like a woman squatting on the ground

with a baby in her arms; and this smaller one, was known as the Dog.

"Of course, the Eskimos hadn't the slightest idea that these wonderful rocks were meteors: all they cared about them was to go and chip pieces off them for their knives and heads of their harpoons. Well, Peary succeeded in bringing the Dog and the Woman back with him in 1895, in which year he also saw The Tent, which was four miles away from the others. In 1897 he brought this one home in the ship *Hope* and renamed it for his daughter Ahnighto.

"Ahnighto (the rock and not the daughter) is 10 feet, 11 inches long, 6 feet, 9 inches high and 5 feet, 2 inches thick through. All three contain iron, nickel, cobalt, copper, sulphur, phosphorus and carbon; and because they are composed of the same ingredients and were found so close together, people think they were all parts of the same shooting-star."

Passing to another one, Doodle explained:

"This great stone, known as Willamette, is the largest iron meteorite ever found in the United States. It is 10 feet long, over six feet high, and weighs over thirty-one thousand pounds. In 1902 two men were looking for gold and silver in a forest near Portland, Oregon, and they came across this great piece of iron. The extraordinary thing about Willamette is that it is all full of holes.

"A meteor is usually named from the nearest town to which it falls. This one called Selma, for instance, fell near Selma, Alabama, in 1898; but it was not found until 1906. It travelled across the sky with a heavy, rumbling noise with a fiery tail of ten or twelve feet long. Selma is rare because it is one single stone.

"This one fell near Long Island, Kansas, and burst into thousands of pieces, all of which were found near each other. The mass probably burst as it struck the ground. Canyon Diablo (you see there are two pieces of it) is interesting because it contained diamonds, which are very rare in the meteors that have come to our earth. Canyon Diablo was found in 1891 in Arizona, and though thousands of pieces have been found, the great big mass has not yet been discovered."

"What is this one with a big hole in it?" asked Jack.

"This is a reproduction only. The real meteor, known as Tucson, is in the National Museum in Washington. I remember it when I was a very small child and used to go to Washington.

"The only two we haven't looked at," continued Doodle, "are Forest City and Brenham. Brenham was found in Kansas in 1886, scattered all about a prairie where stones are very rare. For many years people did not know that these rocks were meteorites. Forest City burst over a town of that name in Iowa in 1890. At five o'clock in the afternoon a brilliant ball of fire flew across the sky, making a terrible noise like thunder and a display of flame like fireworks. The explosions were heard for two hundred miles and more than a thousand fragments have been found."

The next hall they visited (No. 106) was the one devoted to the great Jesup collection of Trees of North America — the most complete collection of the kind in any museum. The children were much interested in looking at the specimens accompanied with the reproductions of leaves and flowers and the water-colour sketches; but Doodle hurried

them along to the Hall of Invertebrate Zoology, also called Synoptic Hall, (No. 107), pointing out the two enormous slices of trees here that also belong to the Jesup Collection. One of these is a section of the Sequoia, or Big Tree, which is nine feet in circumference. The tree was 350 feet high! The other, a Douglas Spruce, has five hundred and sixty-nine rings.

"That tree was 569 years old," said Doodle, "when it was cut down. It started growing in 1340 and was 152 years old when Columbus discovered this country!"

"This room," continued Doodle, "contains specimens of the lowest and highest form of animal life — microscopical animals, beautiful sponges, models of living coral-forming animals and all sorts of things, some of which have been alive and some of which are only enlarged models. This Giant Spider Crab, for example, was once alive. Now just look at him! He measures nearly twelve feet between the tips of his out-stretched claws. He is only found in very deep waters. This example came from a depth of two thousand feet, off the coast of Japan. The British Museum in London has a big one that is highly prized; but it is not as big as this."

"What is that queer thing?" asked Jack, who had been intently observing the model of a Giant Squid whose enormous tentacles reach nearly across the room. "Was *that* ever alive?"

"No," replied Doodle, "that is an enlarged model of the Common Squid that is very common on the Atlantic coast, particularly near Woods Hole, Massachusetts, where it is very destructive to the herring-fisheries."

Hall of North American Ethnology. The Mural decoration is by Frederic W. Stokes.

"Oh, dear!" exclaimed Nora, "I think I never saw such a horrid thing as he is."

"Not even the Green Moray at the Aquarium?" asked Jack.

"No, not even the Green Moray," answered Nora, emphatically, "and, goodness knows, *he* was bad enough!"

"I agree with you," said Doodle. "Shall I point out some of his charms?"

"Oh do!" cried the children, "tell us about him, Doodle."

"Well, then," said Doodle, "in the first place, he is a relative of the Octopus and the Cuttle-fish, and is one of the big Cephalopoda, or head-footed, family."

"Head-footed!" exclaimed Nora.

"Yes; head-footed. He moves, or swims, or walks, or whatever you like to call it, with those arms, or feet, or tentacles that are fastened to his head. His mouth opens in the middle of his arms, or tentacles, and is furnished with a strong, horny beak, like a parrot's, specially adapted for tearing flesh. His eyes are big and keen. Eight of those ten flexible arms are studded all over with suckers for grasping his prey. The other two arms have suckers only on the two club-shaped ends. His body is sprinkled with pale pink spots, which, when the creature is excited, become a deep red."

"Blushes?" queried Jack.

"How silly!" exclaimed Nora. "Don't interrupt Doodle. I want to know some more about him."

"Another queer thing," continued Doodle, "is that he has inside of him an ink-bag!"

"An ink-bag!" exclaimed Nora, "real ink?"

"A black fluid anyway," said Doodle. "So when he wants to escape from either an enemy or a friend (somebody to whom he owes a letter or a party call), he simply empties his bag into the water, which becomes black, of course; and he rapidly swims away.

"But this isn't the only queer thing about Mr. Squid. He generally swims head foremost, and yet he can reverse his engines and swim backwards like a flash of lightning.

"Scientific people say that

"'The mode of progression is unique in the animal kingdom. The body proper is inclosed on the lower side in a *mantle cavity*, to which water is freely admitted. At the entrance to this cavity is a flexible funnel, or siphon, with the small end pointing outward and forward. By filling the *mantle cavity* with water and forcibly ejecting it through this funnel the animal is shot backward like a sky-rocket and at remarkable speed. When going forward the mouth of the funnel is bent so as to shoot the stream of water backward.'

"I wish we had time to look at all these sponges," said Doodle, "the sponge you use for bathing is only one kind, you know. There are many varieties scattered all over the world in the deep seas. They are all sizes, from that of a pin's head to that of a big man; and there are sponges of all shapes — domes, fans, trees, cups, goblets, cakes and lovely vases and clusters of trumpet, or tube-like, forms; and all colours, too,— reds, yellows, oranges, blues, greens, lovely whites and even shining black; but the loveliest of all are the glass sponges found in the tropical seas. Look at this glass rope sponge, for instance; and this beautiful

thing, called Venus's Flower Basket. Could you imagine anything prettier than this?"

"What is a sponge, Doodle?" asked Jack. "Is it alive?"

"Yes; a sponge is one single animal, or a colony of animals. It is always attached to the bottom of the sea and cannot move; and that is the reason people used to consider it a plant. Sponges are very low in the scale of life.

"Corals are low, too. People used to speak of the 'coral insect' that built up the coral reefs and islands; but it is a real animal,—a Zoöphyte. (We saw some Zoöphytes in the Aquarium, you remember, don't you?) Coral is a sort of chalky deposit of many kinds of Zoöphytes. From the original polyp little buds spring, which, in their turn, produce buds and each bud deposits its chalky substance upon the layers of former generations. Sometimes the whole mass grows in the shape of a cup; or it branches like a shrub; or spreads out like a fan; or it assumes the form of a flower, or a mushroom.

"The formation of coral goes on with wonderful rapidity, at the rate of several feet in a few months; and presently an island or *atoll* is formed, or a long reef is built up entirely by these little creatures.

"In these cases are many specimens lovely in colour and form;— but come here. Now what do you think this is?" and Doodle led the children to a series of glass models showing the mosquito from the cradle to the grave, or rather to the period of maturity when its vicious nature is fully developed.

The children were appalled, as they looked at the male and female monsters.

"Are they real ones?" asked Nora. "Do mosquitoes ever grow as big as these?"

"No," said Doodle, "these are glass mosquitoes, seventy-five times the size of the ordinary beast. On this scale, Mrs. Mosquito is one and a half feet high, three feet long, the spread of her wings is three feet and the mouth part — that awful beak — is a foot long! They say Mr. Mosquito is a harmless gentleman; but I wouldn't trust him, and that Mrs. Mosquito is the Grand Inquisitor. She takes what she considers a comfortable position — say on your little hand — and drives that terrible beak into your tender flesh, pumps up the blood into her own gizzard and stomach; and, when she has had all she wants, she very kindly leaves some poison in place of the blood she has stolen."

As they passed on to the North Hall, Doodle stopped a moment to explain that one great work of this Museum is the study of the native races of our continent and their relations to the peoples of the Old World. "Expeditions have been and are constantly being sent out to study various tribes of Indians and other races of northwestern America and northeastern Siberia," said Doodle. "Of course, these men who go exploring naturally study these primitive tribes; learn their language; see how they live; and bring home specimens of their houses, their costumes and all the things they make and use in their daily living.

"We could spend days and days here," continued Doodle, "looking at all these relics of the North American Indians, the Siberian tribes, the Mexicans, the Peruvians and others. There is one room devoted entirely to the North American Indians, and in this hall (No. 108) we find a big collection that

represents the life of the tribes of the northwestern coast of America. All the specimens are arranged so as to show the habits and customs of the people: their baskets, blankets, bows and arrows, spears and fish-hooks, articles of dress, mats, ornaments, canoes, snow-shoes, weapons, musical-instruments, dolls, carvings, and the tall totem-poles bearing the crests and other symbolic designs of the family, or clan."

"We saw a totem-pole in the Zoological Park," interrupted Jack.

"Masks, too, you see are very important," Doodle went on. "Now, for instance, here is a full set of ceremonial masks, illustrating all the important gods of the tribe, the chief of which is the Sun."

The children, however, were more interested in the enormous Haida Canoe made by the Bella Bella tribe, that live opposite Queen Charlotte Islands, in British Columbia. This canoe is sixty-four feet long and eight feet wide and was hollowed out of a single tree, fantastically decorated and painted with bright colours.

Of all the various figures clad in native costume and represented as busy at their occupations, however, the groups that most attracted their notice were those of the Eskimo — partly because they had heard so much lately at home about the North Pole and the Peary Expedition, so, of course, Jack and Nora were greatly delighted to see a real sledge that Peary had used in the Arctic regions, to which eight real Eskimo dogs had been harnessed,— a sledge that had been drawn over snow and ice in the dark days of winter and under the rays of the midnight sun. They also took a vital interest in

the lurid Arctic pictures painted on the walls, and in the life-sized groups of men and women in the cases, making or mending harpoons, harness, or garments. One woman fishing through a hole in the ice and another cooking by means of an oil-lamp struck their fancy until they saw the more attractive representation of an Eskimo scene in another case. The miniature snow-hut, the tiny sledge with the dogs and the people scattered over the snow were as fascinating as a doll's house. Then, of course, they asked Doodle to tell them something about the Eskimos. Doodle, therefore, told them that the Eskimos are a race of people that dwell in the Arctic regions; that they are a kind of link between the Mongolians and the Red Indians of North America; that they live in little villages on the coast consisting of not more than six or seven families; that the men spend their time hunting and fishing and the women in preparing their clothing and the cooking, though much of the food is eaten raw, while they drink the blood of newly killed animals, considering it a delicacy; that in summer they live in tents and in the long winters, when the days are as dark as the nights, in snow-huts,— so, therefore,this pretty little scene before them is a winter one. Then Doodle took them to the other side of the room to show them the carvings made by the Eskimo out of ivory from the tusks of the walrus and other creatures, representing objects — people and animals with which they were familiar — dogs in various attitudes; men throwing the harpoon; and little animals,— all wonderfully executed with great spirit and correct action, proving how observant is the eye and how skilful is the hand of man who is little more than a savage, and

Eskimo woman fishing through the ice.

how he entertains himself with making artistic objects.

"Let us take the elevator now," said Doodle, "and go to the Second Floor."

Entering the hall of the North American Mammals (No. 206), in the east wing, Doodle told them that the two principal exhibits here are the groups representing the Buffalo and the Moose; but, as they had seen the herd of live Buffaloes in the Zoological Park, the children did not care for these. "The Moose group," Doodle explained, "is probably the most elaborate of its kind in any museum; for no less than twenty thousand artificial leaves were used to represent the autumnal woods of New Brunswick.

"These ridiculous old walruses," added Doodle, as they walked from case to case, "were found on the Peary Relief Expedition of 1895. However, we have seen so many live animals and birds in the Zoological Park, that we will not spend any time here on the stuffed ones, but just take a hasty glance at some of the groups of birds so naturally mounted with their nests and eggs and little ones.

"Almost all birds, you know, make a nest of some kind for the reception of their eggs; some nests also serve as cradles for the little birds when they are hatched. The materials of the nests, as well as their forms and general manufacture, vary greatly; but most of them are softly lined. Even those birds, like the parrots and woodpeckers, that lay their eggs in the holes of trees, enlarge the hole by means of their bills; and the chips produced by this performance form a soft layer for the inside. Most birds, however, collect sticks, straws, moss, wool, feathers, hair and threads of

silk or cotton, and lay all the materials among the branches of the tree, or on the surface of a rock, and then interweave these articles in a most ingenious manner to form a more or less cup-shaped nest, lining the inside with the softest materials they can find. The bill is, in fact, a needle, with which the bird really sews his nest together. Some birds build their nests in high trees; others, in trunks of trees; others, on the ground, hidden among the grasses; some in an old stump, or hollow tree; some in briery bushes; some in sand-banks; and some birds take another bird's old abandoned nest and repair it to suit their needs. Look at Bob White over there on the ground? and how do you like the Screech Owl who has just made this hole in the hollow tree? I like these black ducks and their little ones —"

"Oh! what are these things like bottles hanging from the tree?" interrupted Jack, "they can't be nests! Yes they are, for here are the birds!"

"Oh, what pretty birds!" exclaimed Nora, "all black and yellow, and here is one who has poked herself down into the bottle. Oh! how funny! And here is another, hanging upside down at the bottom!"

"This bird," explained Doodle, "is a tropical relative of the Baltimore Oriole,— the Crested Cassique, who makes even a more marvellous nest than the Oriole does. He is very social and likes to live in a colony. As many as a hundred nests have been found suspended from the branches of a single tree. These nests and birds were collected in Trinidad, for the Cassique is found from Southern Brazil as far as Panama."

"What is this nest made of?" Nora inquired, observing it carefully.

"The nest is made of various vegetable fibres strongly interwoven and firmly suspended at the top. If you could see within, you would find it softly lined and the whole thing is as deftly and strongly made as if by a needle. The entrance is at the top. This one shows a bird peeping out. An old lady who saw these nests said she thought a bird that could make such a nest could be taught to darn stockings,— what do you think?"

"The bird might be taught to darn stockings; but I don't believe the old lady could be taught to make a nest like that," laughed Nora.

"I don't think she could either," replied Doodle, adding, "we had better stop to look at the Great Auk, which became extinct about sixty years ago; also the Labrador Duck, one of the features of the collection; and now we come to a bird that I think even more interesting,— a bird that changes his clothes with the seasons — the Ptarmigan."

"Where does he live?" asked Jack.

"In the Arctic regions," said Doodle, "in Norway and Scotland and on this side of the water, too, in the low valleys and plains and on sea-shore. The great idea of the Ptarmigan is to escape observation, whether among the grasses and the lichen-covered rocks of summer, or among the snows of winter. He doesn't wait for the latest styles from Paris, or London, or New York; but he puts on his grey Easter clothes marked with black bars; and, after a few months, his summer tweeds that match the landscape; then, he dons his autumn finery; and, last of all, wraps himself in his lovely

snow-white mantle for the winter. See, here he is, represented in his four handsome costumes."

As they now walked on the skeleton of a large elephant struck Doodle, who stopped a moment, quite forgetting the presence of Nora and Jack, looking upon it with a retrospective eye, and exclaiming: "Well! I do declare! Here is Jumbo!"

Neither Jack nor Nora were much impressed; but, seeing that their companion regarded it so attentively, looked again at the great white framework and tried their best to see what the attraction really was, but with no results.

At last Jack broke the silence: "What is Jumbo?"

For a minute Doodle looked astonished, and then explained: "Why, Jumbo was a great, big elephant that was captured in Africa — perhaps the biggest elephant that ever was captured, and he was taken to London and exhibited in the Zoological Gardens. Then he was brought to this country by Barnum, who took Jumbo, I suppose, to every big city and many little towns in the United States; and when I was a little boy —"

"*You* a little boy," laughed Jack.

"Well, then, when I was a little girl —"

"*You* a little girl," laughed Nora.

"Well then when I was neither, or both," laughed Doodle, "everybody knew about Barnum's Circus and Jumbo. Everybody went to see Jumbo! His name was used to describe anything that was extraordinarily large and he was the sensation of the times. He was not a performing elephant: all he did was to march in the processions of the circus through the streets and around the ring in the Circus tent. One peculiarity of his was very long fore-legs and very short hind legs —

he looked something like little Congo in the Zoological Park, only very, very large. Now I'll tell you something very strange. *I* have ridden on Jumbo's back! Poor old Jumbo! He was killed in a railway accident and here are his poor old bones!"

Jack and Nora now regarded the remains of the great Circus celebrity with feelings of awe and were somewhat elated to be with one who had known Jumbo in his better days. Doodle, however, moved on, remarking:

"Whenever the animals in the Park Menagerie, or the Zoological Park, die, they are sent to the Natural History Museum to be mounted. In this case lies Sultan, the lion that Mr. Carnegie gave to the latter; and somewhere in this collection we shall find an ostrich that died about ten years ago. Nobody could imagine what killed him, for he had been in the very best of health. He was sent here to be stuffed; but the people that ripped him up found that he had died of too much stuffing! Ostriches know that they can eat everything and anything; but this bird overdid it; for they found in his stomach two small metal purses, one toothbrush, two combs, three leather pocket-books, thirteen nails, six screws, some hairpins, four large needles, five half burnt cigars, some matches, a piece of wood, a piece of cloth, two kid gloves and three handkerchiefs."

Jack and Nora laughed heartily as they wandered along until they reached a case of brilliant birds, specially lighted with electricity, so that the marvellous colours and iridescent gleaming of the feathers can be fully appreciated by the visitors. Doodle told the children that these rare Birds of

Paradise are confined to a very small portion of the earth's surface. They live only in New Guinea and the neighbouring islands; but in great numbers, and make a magnificent appearance as they flit about from tree to tree. "Beautiful yellow plumes spring from the sides of the body beneath the wings, you see," said Doodle, "and are *decomposed*, that is to say, all the barbs of the feathers are separate from each other, while the two centre filaments of the tail are carried out, as you see, into two long threads or filaments. See what beautiful plumage these birds have; what velvet-like softness; what beautiful lines! In different lights, you notice, they throw off different colours, emerald green, reddish-brown, bronzed green and violet, golden tints, copper lustre, cinnamon-red, chestnut-brown, and splendid blues. Many strange stories are told of these birds, too. The Emerald Bird of Paradise, for instance, was thought to have no feet, because the natives used to cut its legs off before they sold it. People used to imagine that the Bird of Paradise, therefore, had to pass its whole life on the wing, because it could never perch; others thought it hung itself downward by those long tail filaments from the branch of a tree.

"Oh; stop a minute," cried Doodle, as they were walking down a long corridor and about to pass by a pretty case containing what appeared to be merely the branch of a tree and a cluster of pink orchids. —"What a pretty group this is! The tree is the nutmeg; the orchid, the lovely *Phalænopsis schilleriana* of Indo-Malaysia; the climbing creeper, a sort of grape vine; and, why, I declare, here is a Butterfly — the *Leptocircus curius*; and look! there are several beetles! What I want you specially to

look at, however, is the little Flying Dragon, or Flying Lizard, captured in the island of Nias, off Sumatra. You see he is a regular little air-ship,—swift, fantastic and graceful. His sides act just like aëroplanes, as the animal jumps or floats from tree to tree in search of the insects on which he feeds. His ribs are something like the ribs of an umbrella and his wings are supported on these. When the Flying Dragon wishes to put them in action, his muscles bring the ribs forward and unfurl the wings which uphold the dragon in the air as he proceeds from tree to tree, or wherever he wants to go. He doesn't seem to move like the bird, or bat, by beating the air with a succession of strokes, so we may consider his wings a kind of natural parachute which he can expand at will. When he doesn't want to fly, he folds up those ribs, just like a fan, against his little body. The three little pointed appendages on the throat of the male are orange; on the female, they are blue. The metallic sheen and the prettily marked wings of the little animal help conceal him from his enemies and also from the insects he wants to prey upon. This little Flying Dragon is the last of a great race. He is a descendant of the great Saurians that we shall see presently. Now we must go up-stairs."

When they reached the Third Floor, the chief thing that attracted the children's attention was the life-sized model of the big whale in the East Mammal Hall (No. 306) of the gallery floor. This monster, made of *papier-maché,* upon a wire shell, built over an iron frame, is seventy feet long, and appears as if swimming.

Doodle explained that this specimen is a represen-

tation of the Atlantic Sulphur Bottom Whale, the largest of all living marine animals, sometimes attaining a weight of one hundred and forty-seven tons; that he gets his name from the colour of his under side; and that he is found in both the Atlantic and Pacific oceans, though he is growing very rare.

"But if you want to see a real whale, or rather the skeleton of one," continued Doodle, "come this way."

So saying, they walked into the North Hall (No. 308), where, suspended from the ceiling, they beheld the complete skeleton of a Fin-back Whale, or Rorqual, that was captured off Provincetown, Mass., in 1896.

"When alive," said Doodle, "this creature measures about sixty-three feet. The Fin-back is hunted all along our coasts from North Carolina to Newfoundland and now he is killed with harpoons that *explode* when they strike him."

In the Third Floor they saw many birds and animals of North America and the stuffed figures of the monkey celebrities — Mr. Crowley, Kitty Banana and Chico. They were greatly interested in the beautiful butterflies and moths that have been gathered from all parts of the world,— from Mexico, Central and South America, India, the Malay Islands, Australia, Japan, Africa, Europe and North America.

Among the rarer specimens that attracted their notice were the brilliant blue morphos; the *papilio-homerus* from Jamaica; the *Dynastor Napoléon* from Rio Janeiro; the owl-faced butterflies; the swallowtails; the milk-weed and glass-winged but-

terflies; and the citron, orange, lemon and white butterflies.

In the department devoted to Entomology (No. 307), they greatly enjoyed the beetles, and were surprised to see that many of them were encased in gorgeous suits of armour that shone with hues of green and blue and bronze.

The bees also fascinated them and also the great nests of Termites, those terrible tropical ants. "Thousands of ants live in a colony, which consists of a queen, males, workers, and soldiers," Doodle told them, adding, "and, strange to say, the workers and soldiers have no eyes!"

One of these nests, three feet high and twenty-two inches in diameter (nearly two yards around) was found in one of the Bahama Islands on an old stump in the middle of a pineapple plantation.

They passed rapidly through the department devoted to the ethnology and archæology of South America, and Doodle explained the great value of the Peruvian collection and promised to tell the children more about the Incas on the next rainy day. Here they were struck, as so many others have been, with the peculiar mummified body, popularly known as the "Copper Lady," that was found in a copper mine in Chili, showing that the miner, probably a woman, was caught by a cave-in of the roof, and partly crushed.

"We cannot stop here any longer," said Doodle, "for the next floor is one of the best of all.

"Indeed," added Doodle, as the elevator stopped to let them off, "Dinosaur Hall is to many people the most interesting in the Museum. It contains skeletons of extinct monsters, many of which lived

long before the appearance of man upon the earth. Here we see the hind legs of the largest beast of prey that ever existed — the Tyrannosaurus — and a skull of a still larger, but inoffensive animal — the Triceratops, or Horned Dinosaur. This skull was discovered last year (1909) in Montana and it is hoped that the rest of the remains will soon be found. It is the largest skull of any land animal, known to science, being about seven feet long and weighing nearly eight hundred pounds."

"What does Dinosaur mean?" asked Jack.

"The word Dinosaur," replied Doodle, "means 'terrible lizard,' and it is applied to a large family of animals, some of which lived entirely on land, and others in the water as well. They are classed as reptiles, and many of them have a general resemblance to crocodiles, while the bones of others resemble those of an ostrich. Their remains are found on every continent, and they dominated the animal kingdom throughout the Mesozoic period before the appearance of man. Their bones show a great variety of forms or types. They were all quadrupeds and often the hind legs were much longer than the front ones. They varied greatly both in size and appearance; some were bigger than any modern elephant and others were only two feet long. Some lived on flesh, and others only on vegetable growth. The former are known as Carnivora and the latter as Herbivora.

"It is possible to distinguish between the Carnivora and Herbivora by the character of the teeth. Carnivores have large sharp teeth for cutting and chewing, but never for grinding. The structure and habits of an extinct animal can also be gathered

by experts from an examination of the bones of the legs and the back called the vertebræ.

"Professor Owen, a great authority, said:

"'If I were restricted to a single specimen on which to deduce the nature of an extinct animal, I should choose a vertebra to work out a reptile and a tooth in the case of a mammal.'

"By measuring the brain cavities in the skulls also, students are able to form a very good idea of the nature and capacity of the brains and general intelligence of the animal.

"It has been found out that the brain development of these gigantic animals was small, and it is therefore supposed that they had very little sense.

"Here is another enormous creature," said Doodle leading the way to the Brontosaurus. "This peculiar thing was one of the largest of the amphibious Dinosaurs that lived in the Age of Reptiles,— at least eight million years ago. It was the largest kind of animal that ever lived, except some kinds of whales, and no bigger animal ever walked on four legs. The Brontosaurus spent its life in shallow water, partly immersed and occasionally swimming, at which exercise its long tail was a great aid. The length of its neck enabled it to reach its food from the bottom and from trees growing out of the water. Its food was principally aquatic plants. Its very small brain and slender spinal cord show that it was a stupid reptile, of slow movement. Its feet left tracks in the mud measuring a square yard. Its bones are often found in places where it evidently had become mired as cattle do to-day in swamps and on river and lake margins. Its swimming and wading habits enabled

it to keep somewhat out of reach of the Carnivorous Dinosaurs, that were its principal enemies.

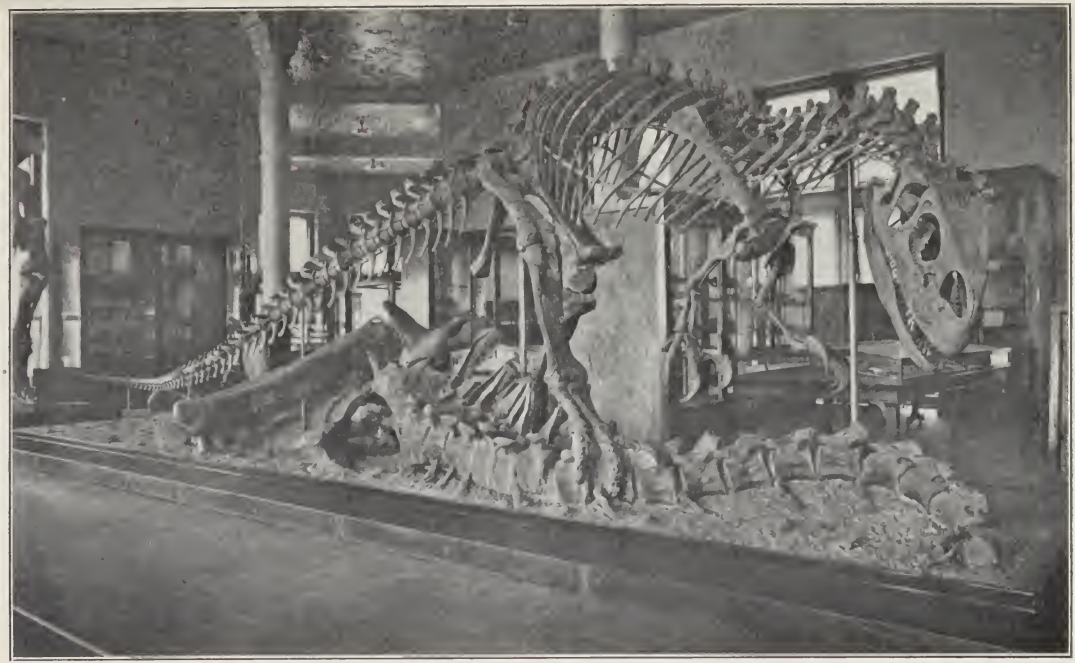
"This gigantic skeleton was discovered in Wyoming in 1898 and it took seven years to collect, remove and mount the fragments! Its length is sixty-six feet, eight inches; height fifteen feet, two inches; and weight about forty tons. Its thigh bone alone weighs five hundred and seventy pounds.

"The chief enemy of the Brontosaurus," continued Doodle, "was the huge Allosaurus, which, though smaller than its victim, had a great advantage in teeth and claws. Look at this dramatic group — a skeleton of an Allosaurus standing over that of a Brontosaurus in the act of feeding upon it.

"The remains of the two monsters were discovered within a few miles of each other; and the tooth marks of the one are visible on the bones of its victim. In the restoration, the forefeet, which these animals used only when fighting or tearing their prey and not for support, have been given characteristic attitudes.

"The Allosaurus raises its head and paw threateningly as if to keep off an intruder who wants to share the feast. It stands eight feet, three inches high, and is thirty-four feet, two inches long."

Next they went to look at another interesting group,— that of two Trachodons, mounted so that each represents a characteristic attitude of the animal when it was alive. The accessories consist of fossil plants belonging to the same period and suggesting the natural surroundings and food of the animals. Mr. Barnum Brown, who has discovered so many Dinosaurs in the West, tells us that



The Allosaurus and the Brontosaurus.

this group is intended to take us back in imagination to the Cretaceous period, more than three million years ago, when Trachodons were among the most numerous of the Dinosaurs. Two members of the family, you see, are represented here as feeding in the marshes that characterised the period, when one is startled by the approach of a carnivorous Dinosaur, Tyrannosaurus, their enemy, and rises on tiptoe to look over the surrounding plants and determine the direction from which it is coming. The other Trachodon, unaware of danger, continues peacefully to crop the foliage. Perhaps the erect member of the group had already had unpleasant experiences with hostile beasts, for a bone of its left hind foot bears three sharp gashes which were made by the teeth of some carnivorous Dinosaur.

"Now, perhaps," said Doodle after a pause, for the children's imagination, like Doodle's own, was touched, "perhaps we can believe in the dragons of the Fairy Tales and old ballads,— what do you think?"

"What kind of a place was the earth, Doodle," asked Jack, "when these queer creatures lived on it?"

"If we could turn back the pages of the great Earth Book," Doodle replied, "and see our globe as it was before the days of man, when the great long-necked crocodilian reptiles that we see here, were the chief inhabitants, we may picture a muddy, spongy, oozy land watered by great rivers and largely overspread by a vast expanse of lakes, on whose dreary, slimy banks gigantic reptiles reposed amid enormous extinct bog-plants or floated like logs in the fenny sunshine, or cool mists, while the silence of the desolate scene was broken by the noise

of their monstrous jaws clamping together on some unfortunate fish, and by the rumblings and explosions of the distant volcanoes.

"Fearfully great lizards were these creatures that lived in the water and on the land and finally got buried in the mud.

"After the Age of Reptiles the Mammals came upon the scene. They were huge creatures, too. Come here now and let us look at these two magnificent specimens of early representatives of the elephant family,— a Mammoth and a Mastodon. The Mammoth lived on the earth side by side with man, by whom it was hunted and probably finally exterminated. In North America there were three species during the Glacial Period. The Siberian Mammoth which is found in the ice in Alaska; the Columbian Mammoth which inhabited the greater part of the United States; and the Imperial Mammoth that ranged over the Southern States. The Imperial Mammoth before us was found in a swamp in Indiana eight feet below the surface. The tusks measure eleven and one-half feet; the length of the body is thirteen feet, three and one-half inches and the height of the body at the shoulders ten feet, six inches."

"Did the Mastodon ever live in North America?" asked Jack.

"Oh, yes! The Mastodon inhabited North America at the same time as the Mammoth. The Warren Mastodon is the most complete skeleton of this animal that has yet been found. It was discovered near Newburgh, New York, in 1845. It measures nearly fifteen feet in length and nine feet in height; and the great curved tusks are eight and a half feet long."

Doodle also showed them the remarkable skeletons of the Amblypoda and the tremendous Dinoceras, which had a frame as big as an elephant, which it somewhat resembled. It had big tusks and massive legs, with only four toes on each foot, and a short and slender tail. The head was provided with six horns, which must have given the beast a hideous and terrifying appearance.

"The South American armadillos of the present day that you saw in the Zoological Park," Doodle continued, "are puny representatives of their ancestors of the Post Pliocene period, which are called Glyptodons. The armadillo rarely measures more than three feet in length, whereas the Glyptodon averages nine feet. See this fine example of one of these gigantic tortoise-armadillos from Argentina. And come and look at this one too, another extinct animal, the Toxodon, from South America. It was about the size of a hippopotamus."

Doodle next showed them the very complete and fine exhibition representing the evolution of the horse under domestication,— the three-toed desert horse and also the skeleton of the race horse, Sysonby.

The children, like everybody else who visits this Museum, were greatly interested in the skeleton of the Irish Elk. Unlike the great majority of extinct animals which are entirely lacking in beauty, this is noble and imposing. In life it was the biggest and most beautiful member of the deer family. Its grace and majesty are finely reproduced in the picture on the base that shows it with the Lakes of Killarney in the background. Though called by the name of the Irish Elk, Ireland was not its only home, however, for its remains are also found

in Scotland, England and on the continent of Europe.

When the Irish Elk lived, Doodle told them, the land was covered with forests in which it found plenty of its favourite food,— leaves, and shoots, adding: "The spread of its splendid antlers is enormous, in this instance, measuring ten feet from tip to tip. It must have had difficulty in threading the mazes of the forest when pursued by its enemies. The antlers are very heavy (eighty pounds) for such a small head; and so the neck is unusually short to assist in bearing the weight, and the bones are bigger and stronger than those of other deer.

"In the days of the Irish Elk, the climate must have been almost tropical, for its remains are found in company with those of the mammoth hippopotamus and rhinoceros in the caves of the great flesh-eating hyenas and bears."

They then looked at the skeletons of the Hyaenodon and pictures that show the animals of the period in their natural surroundings.

Turning to the west, they entered the Mineral Room; and, looking quickly at the cases of crystals and minerals, they particularly noted some specimens of crystallised gold from California,— perfect little octahedral (eight-sided) crystals of pure gold held in the midst of a cluster of clear prismatic crystals of quartz. Some experts, indeed, consider this the most beautiful specimen of the kind so far known.

Next Doodle pointed out a natural-sized model of the great Cullinan Diamond, sent as a present to the Museum by the Premier Transvaal Diamond Mining Company of Johannesburg, where the diamond, the biggest in the world, was found.

North American Waterfowl.

This great diamond, which was sent as a present to King Edward, weighs one pound, six ounces, and is perfect in colour and lustre.

Next they peeped into the Mexican archæology (Room 402) where all the marvellous stone carvings and other relics are so well displayed; but the afternoon was rapidly drawing to a close, and so Doodle led them back to the Elevator.

There was only one collection in the Fifth floor to attract them, for they did not care to visit the Library,— and this was so very fascinating that it seemed a pity it had been left to the very last. The children were charmed with the vast number of pretty shells here, large and small, from all parts of the world. Particularly famous is the Storer Collection, consisting of about 3,500 specimens, chiefly obtained from sailors and sea-captains in old days when handsome shells were more common than they are now. The great variety of shells of all shapes, sizes and colours; spotted and striped and covered with spines, surprised and fascinated these children, who seemed to have a fancy for everything that comes from the sea, and they were quite unwilling to leave until Doodle promised to bring them here another day and tell them something about these wonders of the ocean.

CHAPTER IX

A VISIT TO THE METROPOLITAN MUSEUM

IN WHICH THE CHILDREN SEE SOME WONDERFUL WORKS OF MAN'S HAND; LEARN OF ANCIENT CÓUNTRIES AND THEIR ARTS; AND BECOME ACQUAINTED WITH SOME MASTERPIECES OF ARCHITECTURE, SCULPTURE AND PAINTING.

"We have seen so many wonderful works of Nature, now we are going to look at the works of man's hand," said Doodle, as the three were flying up Fifth Avenue in the stage to the Metropolitan Museum. "You know that through all the ages and in all countries people have first made themselves comfortable with regard to their homes, furniture and clothing; and then, as soon as they are comfortable, they begin to want luxurious and beautiful things to use, to look at and to wear.

"Man has a great desire to have beautiful things around him, and he also has a great desire to *make* beautiful things. In all ages, therefore, and in all countries, this need has been expressed.

"The object of a museum is, therefore, to gather together and preserve beautiful and interesting things that man has done in the past and that he is doing in the present. By means of all these curiosities and works of art we can see how people lived in past ages and in different countries; and

the Metropolitan Museum, which was founded about thirty years ago, has grown until it is now one of the best museums in the world. It offers us a great many special collections, which, as I have said, show the beautiful work that people have accomplished in many periods of the world's history and what kind of articles people had in their houses or used in their daily life. Here we may see furniture, pottery, porcelain, silver, enamels, glass, tapestries, pictures, carved ivories and beautifully illuminated books for his home; laces and embroideries and jewelry for his personal adornment; armour and weapons with which he fought and defended himself and his possessions,— in short, a host of splendid articles that are both useful and ornamental.

"It would take us months of study and many visits to look at all these fine objects with the attention that they deserve — such as the delicate ornamentation of the handle of a silver spoon; the extraordinary inlay on a Japanese sword; the miniature carving of an ivory binding; the fantastic shape of a Venetian goblet or the intricate patterns of a rare piece of lace. I am afraid we shall have to save all these pretty objects for other visits and keep our minds on a few of the exhibitions only, — and even these that I shall select to show you are so large that we must single out but a few of the interesting objects in them."

The children were somewhat bewildered when they entered the great vestibule and passed quickly through Rooms 7, 14, 15, 16 and 17, filled with bronzes, antiquities and casts of ancient sculpture, to the Main Hall (Room 38). Here they paused to get a general impression.

The first thing they noticed was the beautiful model of the Parthenon, the original of which stood on the great hill of Athens that was called the Acropolis. "The Parthenon, which means the House of the Virgin Goddess, was dedicated to the goddess Athene, for whom the city of Athens was named. She was the wonderful goddess who jumped full armed from the head of her father, Zeus or Jupiter. She is also called Minerva, and is the goddess of wisdom. She always appears in a full suit of armour. A beautiful statue of Athene, all of ivory and gold, was made by the great sculptor, Phidias, for this temple, and was placed in the *cella*, or central room. Around the *cella* was a *peristyle*, having eight Doric columns at each end and seventeen columns on each side and within the *peristyle,* or outer row of columns, there was an inner row of six columns. You may count them for yourself," added Doodle, leading the children before the little model of the Parthenon, which is an exact facsimile of the original building, one-twentieth its natural size. The children were surprised and delighted; and, after counting the columns, they peeped in and saw the statue of Athene in the *cella.*

"Above the columns in the back and front of the Parthenon," said Doodle, "you will notice the roof forms a kind of triangle. That is called the pediment. One is called the Eastern Pediment and the other the Western Pediment. Phidias filled each with beautiful statues; in fact he illustrated the story of the goddess Athene's birth in the one, and the story of how Athens was named for her in the other. After the marbles were sculptured, they were gorgeously painted and gilded.

The Metropolitan Museum.

"The subject of the Eastern Pediment is the birth of Athene. You remember that one day Zeus had a bad headache and sent for Hephæstus, the blacksmith of the gods, who cleft open the god's head and out jumped Athene, the goddess, in her full suit of armour brandishing her spear.

"Now let us look at the statues. First comes Hyperion, the God of Day, rising from the ocean; next we see the heads of the Horses of the Sun; then comes a youthful male figure sitting on a lion's skin, supposed to be Theseus; then come two figures of women, supposed to be Ceres and Proserpine. Then comes Iris, the messenger of the gods, hurrying to earth to announce the birth of Athene to mortals; then a Winged Victory; then three female figures — probably the Fates; then the Horses of the Moon-goddess, Selene, supposed to be plunging into the sea just as the Horses of Day are rising from it. Nothing in all sculpture has been more admired than these immortal horses.

"Now let us walk to the other side of the case and look at the Western Pediment. The Western Pediment is supposed to represent the contest between Athene and Poseidon for the honour of naming the city of Athens,— a contest which was said to have occurred on the Acropolis itself.

"Both Neptune and Athene wanted to have possession of the city, and the gods decreed that it should be given to the one that produced the gift most useful to people. Neptune struck the earth with his trident, and a fine horse sprang up. The horse was certainly useful to man, nobody could dispute that. Could Athene think of anything better? Yes, indeed she could! So she struck the earth and out came an olive tree — the symbol of

peace. The best thing, then as now, that man can have is peace! So the gods gave the city to Athene, and it was named Athens in her honour. Now I am sure that you will never forget the Parthenon.

"If we could jump on King Solomon's carpet of birds and fly to Athens at this moment to see the real Parthenon, you would not recognise it after looking at this restored model, which represents it as it was in its best days; now, it is seeing its worst. It is nothing but a mass of ruins and broken columns; and all the fine statues of the Eastern and Western Pediments have been taken away. The Parthenon was built between the years 448-442 B. C., and, strange to say, it remained standing entire in all but the roof for two thousand years! Think of it! Two thousand years! In 1687 the Venetians besieged Athens and one of their shells, fired from the opposite shore, nearly destroyed the whole building and its splendid sculpture; but fortunately some Englishmen and Frenchmen had visited the place in 1674 and 1676 and made drawings of the sculptures and this is how we know so much about it, and how it was possible for this miniature Parthenon to be made.

"The sculptures were removed by the Earl of Elgin to England in 1799-1803; and in 1816 they were purchased by the British Government. They are now in the Elgin room in the British Museum in London and are usually referred to as the 'Elgin Marbles.' Though mutilated and broken, they are perhaps the most celebrated of all ancient statues. Suppose we go and look at the casts of these statues,— shall we?"

The children acquiesced gladly; and were greatly

interested when Doodle showed them the splendid figures of the Eastern Pediment in Room 8.

In this room they also saw a great statue of a man named Laocöon and his two sons writhing under the coils of two serpents.

As the children were much mystified, Doodle explained that this great group of Laocöon was one of the most famous of all statues, and that the original, now in the Vatican in Rome, was made in the Second Century B.C.— over two thousand years ago — and was found among the ruins of the Palace of Titus in Rome in 1506; and then asked Jack if he remembered anything about the Trojan War.

"Indeed I do," answered Jack. "The Greeks and Trojans went to war about a beautiful lady named Helen —"

"Yes; and Paris carried her off from her Greek husband," added Nora, "but I forget his name."

"Yes; that is right," answered Doodle. "Now it was during this long siege of Troy that this episode occurred. Troy held out bravely and the Greeks found that they could only hope to take the city by a trick. So they made an immense wooden horse and said it was an offering for Athene; and then large numbers of them sailed away. But, in reality, the wooden horse was filled with soldiers.

"The Trojans, thinking the enemy had gone, opened the gates of the city, and were about to take the strange horse into Troy when Laocöon, the priest, exclaimed: 'Citizens! you are mad! Have you not learned enough of the Greeks and their treachery. I fear the Greeks even when they offer gifts!' and then he threw his lance into the horse's

side. But the gods, who were on the side of the Greeks, sent two immense serpents out of the sea and they wound themselves around Laocöon and sons. The Trojans thought the gods were angry with Laocöon and dragged the wooden horse into the city; and at night out jumped the Greeks and set fire to Troy."

Returning to the Main Hall, Doodle showed them the model of the Hypostyle Hall in the Temple of Karnak, which was begun in the Fifteenth Century B. C., and told them that

"This was, perhaps, the largest Temple the Egyptians ever built. Like the Parthenon, the Temple of Karnak is now in ruins; but most of the columns are still standing though the roof they supported has perished. There are twelve central columns in this Great Hall of Karnak and a hundred and twenty-two others. In the real temple, six men standing in a ring could not get their arms around one of the shafts of these huge pillars. They are sculptured and painted with the figures of gods and kings, sacred animals and symbols of wisdom. You see that the capital, or head, of every column is carved and painted to represent a gigantic lotus, or water-lily. Yes; it was a superb temple, consisting of many other courts and rooms besides this magnificent hall; and there was a great avenue of sphinxes reaching from Luxor to Karnak — two miles long, with two hundred and fifty sphinxes on either side of the road.

"Suppose we now look at a famous European temple," added Doodle, leading the children before the model of Notre Dame, which is thirty feet long, twelve feet wide and so perfect in construction that not a single detail is absent.

Doodle told them that the great cathedral of Paris was not only one of the most splendid churches of its day, but one of the most famous cathedrals in the world; and that this model is so accurate that they might imagine themselves in Paris standing before Notre Dame itself.

"It is," said Doodle, "a perfect example of Gothic architecture, just as the Parthenon is of Grecian architecture. In all Gothic cathedrals, the west front is the most important and receives the most decoration. Here we have three deep portals or doors lavishly decorated with sculpture and figures. Then comes a row of statues, above which is the great rose-window, as you see, in front of which stands a statue of the Virgin; then comes a row of arches, and, above this, the tower-galleries, where those fantastic stone monsters look down upon the streets of Paris. Then above rise the two square towers, in one of which is the great bell called the *Bourdon de Notre Dame,* which weighs more than sixteen tons and is over two hundred years old."

Taking the children around to the sides and back, Doodle showed them the flying buttresses and the apse, and told them that the interior was as beautiful and imposing as the outside, and that here many important events had taken place. Doodle also told them that Notre Dame stood on an island in the Seine called *Ile de la Cité* and that wherever you go up and down the Seine the splendid building makes a beautiful appearance.

"How I wish I could see it!" exclaimed Jack. "I like it better than I do the Parthenon. Have you ever seen it, Doodle?"

"I have," said Doodle, who added very myste-

riously, "and I have walked around this platform, and have seen these monsters, and I have patted this creature on the back."

"Oh! I wouldn't touch him for anything," said Nora.

"I would," said Jack. "I like this bird with a hood on better though."

"I have a picture of him I will give you when we go home," said Doodle.

Next they visited Rooms 30, 32, 39, 40a, 40b, 41 and 42, in which are exhibited casts of ancient sculpture, Greek and Roman antiquities and vases; then they went into Rooms 17, 16, and 15, also devoted to ancient sculpture, passed the other side of the stairway this time (Room 13); and then came to the Egyptian section (Rooms 6, 5, 4, and 3).

First Doodle showed them the reproduction of the famous Rosetta Stone, telling them that the original, now in the British Museum — a slab of black basalt — was found in 1799 by a French army officer, near the Rosetta mouth of the Nile, — whence its name.

"It is the most valuable relic of Egyptian history that the world possesses," said Doodle. "The great value of this stone is this: the same inscription occurs in three languages. One of these was Greek and another Egyptian hieroglyphics, like those signs we saw on the Obelisk that stands outside of our Museum. Here was a key to the puzzle language of the Egyptians. On the Rosetta Stone the history is written of King Ptolemy V., who set up the stone about 196 B. C., and the principal events of his reign; so you see how valuable this Rosetta Stone is.

"Scholars can now read all the inscriptions on obelisks and mummy-cases, vases and tombs; and, therefore, we know a great deal about the people of ancient Egypt and their manners and customs.

"Egypt is one long valley surrounded by sandy deserts through which flows the river Nile and hemmed in by mountains. As the Nile overflows its banks every year, the Egyptians would not bury their friends, or sacred animals, where the floods would be likely to reach them. So they embalmed the bodies and placed them in the mountain caverns, or in great tombs that they specially erected. Palaces, temples, and tombs have been dug out from the sands within the past hundred years, and great treasures brought to light. Probably the most wonderful group of ruins in the world are at Thebes, with its palaces, temples, statues, obelisks and sphinxes.

"Not far away from Thebes is the Temple of Karnak which you have just seen.

"Now we will go and see what the people themselves looked like," said Doodle, and then showed them the portrait busts (casts) of various Kings and Queens including that of the great warrior, Rameses II., who reigned sixty-six years (B. C. 1565-1499), explaining that the peculiar headdress called *pschent*, was the symbol of dominion over the upper and lower world, and that the uraeus, or symbol of royalty on the headdress, is the cobra, or asp, which seems to threaten all enemies.

"Yes;" said Nora turning to Jack, "we saw the real cobra in the Reptile House in the Zoological Park,— don't you remember?"

After having looked at the statues they then peeped into some of the cases, containing objects

connected with daily life, toilet articles, spoons, mirrors, ladles, pins, needles, vases for pomades, bracelets, brooches, earrings, necklaces, and beads, charms and amulets in the shape of birds, insects, reptiles and animals that Doodle told them had been found in the real tombs of the Egyptians. Doodle also told them that the favourite amulet or charm, was the one in the shape of a beetle called *Scarab*, used to protect both the living and the dead; and that these *scarabs* were inscribed with all kinds of names and signs known sometimes only to the owner himself. Another curious amulet that Doodle showed them was an Eye,— emblem of the Sun-god Ra.

"All the figures with heads of animals and birds are images of the gods and goddesses worshipped by the Egyptians," added Doodle, "for instance, this one with the jackal head is Anubis; this cat-headed goddess is Bast; this ape-headed god, Hapi; this ram-headed man Chnum; this goddess with the head and horns of a cow with a disk between the horns is Hathor; this hawk-headed god, Horus; this vulture with outspread wings is Mut, the mother of all things; this crocodile-headed god is Sebek; this lion-headed goddess Sechet; and this ibis is Thoth.

"A little while ago I told you," said Doodle, "that the Egyptians built great tombs to protect their dead from the overflowing of the Nile. Did I tell you that they embalmed the dead bodies and wrapped them in linen bandages with all kinds of spices and perfumes that would preserve them for ages? Then they placed them in caskets, or cases painted all over with little brightly coloured pictures of the gods and sacred animals and events in the

Hall of Casts.

life of the person who lies within? No? Well, they did; and many mummies have been found that are the shells so to speak of persons that lived — not hundreds — mind you — but thousands of years ago. Shall we look at a few?

" This one is the mummy of a warrior who lived, died, and was buried more than three thousand years ago! The cover of the mummy case is carved wood: the face and hands are tinted yellow, the hair is green with yellow stripes, and the big necklace of green, yellow, salmon, pink and blue. There is a red band around his neck and a winged disk over his lips and at the end of each wing is a Ba-bird (that is a representation of the soul of the dead person) in adoration before the cartouche (the monogram) of King Amenhotep I. Across the knees is a winged deity.— probably Nut with Horus and Isis on the left and Horus and Nephthys on the right between the wings and Osiris is lower down receiving adoration. The mummy case proper is decorated with scenes representing the figure of the deceased, various gods — Osiris receiving the adoration of the Ba-bird and other gods. The figure of the deceased is shown to be offering prayers and making offerings to the gods. Amulets and the symbolic eye of the Ra the truth feather, and the *uraeus* appear frequently.

" Here is the Mummy of the Lady of the House, Shep, dating from 1200 or 1100 B. C.

" The mummy is in her original wrappings and bandages. Her hair is white with green stripes on the sides, her face is pink, and she also has on a necklace. On top of her head is a large disk and on her forehead a winged disk, the wings of which extend down the sides of her face. The Lady

of the House Shep is surrounded by various deities and at the foot lie two figures of Anubis as jackal.

"Can you realise that you are looking at a rich and beautiful lady who lived thousands of years ago?"

After having seen all they wanted here, the three crossed over the hall to Rooms 11 and 12 and thence into No. 9, looking at the casts of ancient sculpture with which these rooms are filled. Doodle explained how originals had been found from time to time in far away islands and among ruins of palaces, temples and baths, in Greece and Rome, and taken to various galleries of Europe; and that these casts were exactly like the originals.

They saw statues of all the great gods and goddesses — Jupiter and Juno, Apollo and Diana, Minerva and Venus; great heroes of myth and legend; Victories rushing through the air with outspread wings; Niobe protecting her last surviving child from the arrows of Apollo and Diana; the sleeping Ariadne, deserted by Theseus, who is going to awake and become the bride of Bacchus; and athletes throwing the quoit, scraping themselves after exercise, binding their heads with a fillet, or crowning themselves after the Olympic games in which they had won victories.

Doodle pointed out the most celebrated pieces as they wandered about, and promised to tell Jack and Nora the stories of each one at some future time.

They did not linger in Room 7 in which the bronzes are preserved, but passed on to the staircase. "Now we will go up-stairs," said Doodle, "and see the pictures.

"Do you not think it wonderful that a person

with a brush, a few paints and a piece of canvas, can, by making a few lines and dabbing on some colours, represent on a flat surface, objects and scenes that give pleasure to the spectator? With form and colour, light and shade, the painter depicts for us a person, a bird, an animal, a house, a church, a little piece of the country, a little bit of the sea, a vase of flowers or a basket of fruits; or he tells us a little story, or describes in paint a little scene.

"Painting is a very old art. We have just seen some of the Egyptian paintings on the mummy-cases down stairs, and we saw the bright colours on the columns in the little model of the Temple of Karnak. Now the Greeks, who come next in civilisation to the Egyptians, used to paint real pictures to hang up in the temples and homes; and they also painted pictures on the walls of their houses. Indeed the Greeks were almost as famous for their painting as they were for their sculpture.

"A story is told of two Greek painters, each of whom boasted that he could paint better than the other. One of the painters tried to brush a fly off his rival's picture and was amazed to find that the fly was a painted one. Then the man who had painted the life-like fly said to the other: 'Suppose you raise the curtain and let me see your picture?' But this the artist could not do, because he had painted a curtain! So you may imagine that the Greeks could imitate pretty well, if the painters could deceive each other.

"Painting, as we know it, dates from about the Thirteenth Century; and what we know to-day comes from the Greeks of Constantinople. When Constantinople was conquered in 1204, many Greek artists went to Italy; and the Italians copied their

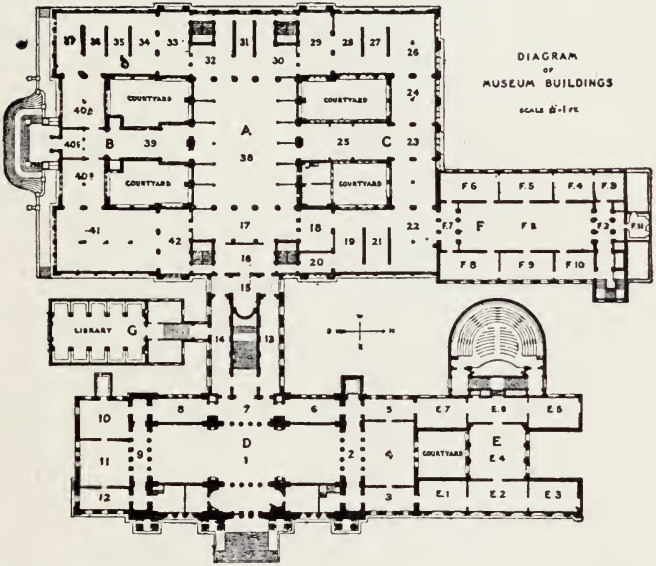
pictures and their ways of painting. So the early Italians all paint in the Byzantine, or Greek, style. So did the German and other European artists. At this period, Siena was a great place for painters, and the early Sienese School and the Florentine School are both famous: each one claims to be the older. They are, however, about the same age. The early European artists, who are to-day called 'Primitives' painted chiefly altar-pieces for their churches; and naturally their favourite subject was the Madonna with the Infant Jesus. Sometimes they painted saints standing at the side of the Madonna's throne, or chair; sometimes angels; and, very often, the man who gave the picture (the donor) kneeling in prayer. Occasionally, too, they painted the Nativity of Christ, or the Adoration of the Three Kings; but their favourite subject was the Madonna.

"I don't believe that either of you understand them or care for these queer old pictures; the people are so lanky and flat, and they have such long thin hands and feet and such peculiar faces. Sometimes, however, the Madonna has a lovely expression, if you study her. The Sienese painters usually dressed her in robes of the richest brocade, and placed the throne, or chair, in which she sits, against a background of real gold. The halo around her head, or the crown that holds her veil in place, is real gold, and gold is used to touch up certain parts of the picture. Would you like to see some of these queer old pictures?"

"I certainly should," replied Jack.

"I, too," Nora added.

"Then come here. This one is by Simone Memmi of the Sienese School and represents *St.*



PLAN OF THE FIRST FLOOR

Paul. It was painted five hundred years ago! Here is part of an altar-piece, by Giovanni di Paolo, also of Siena. St. Francis is standing on the right beneath a Gothic framework and St. Matthew, on the left, both standing against a gold background. The Virgin and Child that are accompanied by St. Joseph and St. Peter is by Pietro di Domenico and the Madonna and Child that you are looking at so intently, Nora, is by Sano di Pietro. All these are splendid examples of the Sienese School."

"What is a School, Doodle?"

"I am glad you asked me," Doodle answered. "I should have thought to tell you that a School means a group of men who painted in the same style — that is to say, the same general style, or were followers and imitators of a special master. Now, having seen the Sienese, here is a Florentine picture of the early Fifteenth Century, by Lorenzo Monaco; and this other *Madonna and Child* is by Bartolommeo Montagna of the School of Vicenza."

"What is *this* picture?" Jack asked, stopping before Pollaiuolo's *St. Christopher.*

"St. Christopher was one of the saints that the Primitives were particularly fond of painting. Do you know the story? He was a giant about twelve feet high (twice as tall as a very tall man), and he was enormously big and strong besides; and he was so proud of his strength and size that he would only serve the mightiest princes. He wasn't a saint in those days, you know; he was only an ordinary giant. At last he went into the service of the Devil. One day he and the Devil were walking through the woods and they came across an image of Christ. The Devil was so frightened

that the Giant lost confidence in him and determined to find out the Saviour (who was evidently greater than the Devil) and to serve him when he found him. While wandering about he came across an old Christian hermit, who told him all about Christ and christened him; and he had to do penance by carrying Christian pilgrims over a stream that had no bridge. One day a little child came to the stream and St. Christopher took him on his shoulders; but soon he began to sink under the terrible weight. The child was the Infant Christ himself; and to prove it he told St. Christopher to stick his staff into the ground. He did this; and the next morning, lo! the staff had become a palm-tree!

"Now let us look at the picture. St. Christopher has a halo around his head and a palm-tipped staff in his right hand. The Child holds the globe in His left hand and His right arm, you see, is around the saint's neck. They are in the middle of the stream, for you see the shores on either side, and above is blue sky. This picture was painted by an Italian with a very peculiar name to our ears, Antonio del Pollaiuolo (Polly wallow is the nearest we can say); and he and his brother were goldsmiths of Florence in the Fifteenth Century. Afterwards they became painters; and their masterpieces now scattered in the great galleries of Europe are very highly valued to-day.

"We haven't time to talk about the various schools of painting and all the great Italian artists; nor of painting and painters in other countries — Dutch, Flemish, German, French, Spanish and English painting; for we have come here to *look* at pictures and not to *talk* about them; but I can

tell you one thing,— and that is that in this Museum very nearly all schools and styles of painting are represented; and there are examples from nearly every one of the great Masters of the past and present.

"We are going to run through the rooms quickly and look at a few striking pictures.

"Before we leave this room, however, we will glance at this *Portrait of Thomas à Becket,* by Jan van Eyck, who, with his brother, Hubert van Eyck, invented or improved the method of painting with oil. This, however, is not all that distinguished him. Jan van Eyck was a wonderful painter of life-like portraits and very decorative altar-pieces. He was greatly appreciated in his day, and had many pupils. Whenever you see a picture by Jan van Eyck, you should look at it carefully.

"If people had not learned how to paint portraits," Doodle continued, as they entered Room 12, "and how to get a good likeness of their sitters, we should not know what famous people looked like in the days before photographs were known. Almost all the great artists were splendid portrait painters and tried to represent the people who sat to them exactly as they were. Some of our early American artists were very fine portrait-painters, too, and their works are very highly valued to-day. One of these is Gilbert Stuart, who was a native of Rhode Island, and was educated in Scotland and England. He painted the portraits of many distinguished persons abroad — among them three Kings — Louis XVI. of France, George III. and the Prince of Wales (afterwards George IV.). He also painted Sir Joshua Rey-

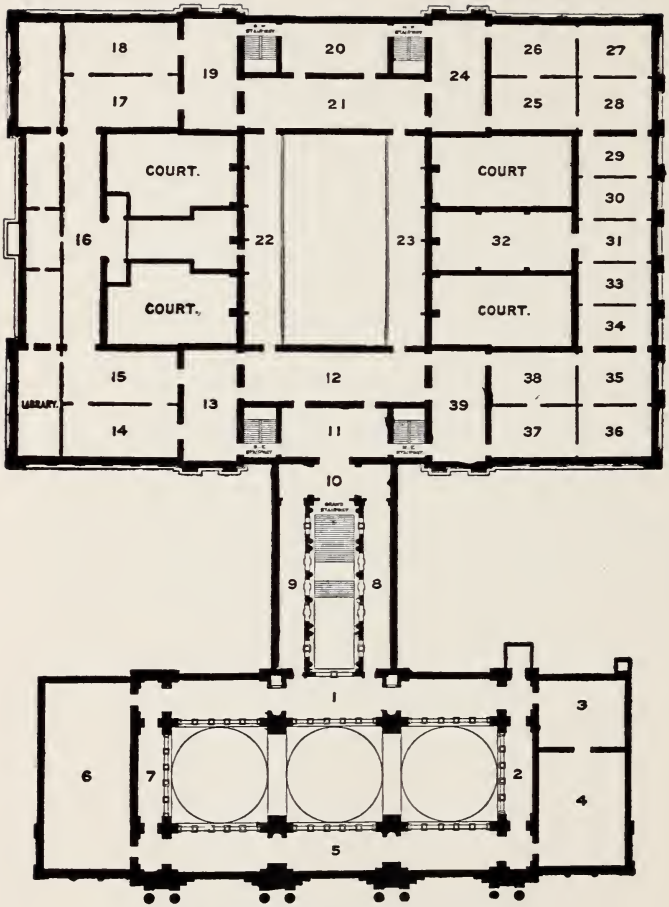
nolds and Benjamin West; and, when he came home, he painted the portraits of six Presidents of the United States,— George Washington, John Adams, Thomas Jefferson, James Madison, James Monroe and John Quincy Adams.

"This gallery is fortunate in owning among others by him, two of *George Washington.* The one painted in 1803 is the more famous. It is very simple in style; and that is one reason that it is so much admired. The dark grey eyes look calmly and steadily in front and the face is strongly lighted from the left. The powdered hair and bright colour of the complexion stand out well from the olive background. You see how severe is the costume — a black coat and a white lace ruff and necktie.

"It is appropriate that we next look at *Washington Crossing the Delaware,*" said Doodle, entering Room 13. "This is by a painter of the American School, Emanuel Leutze, painted in 1851. Though not particularly remarkable as a work of art, it depicts a noted historical event with so much dramatic force that it has become quite famous. You have seen it reproduced in books and magazines many times. I suppose you remember the story,— how General Washington, having determined to surprise the British at Trenton, took twenty-four thousand men and twenty pieces of artillery across the Delaware river, which was full of snow and ice, the night of Dec. 25, 1776."

"Christmas night!" exclaimed Nora.

"Yes, Christmas night," answered Doodle; "and the river was so packed with floating ice and the night was so dark and stormy that they doubted if they could cross it. They started early in the



THE METROPOLITAN MUSEUM OF ART
SECOND FLOOR

evening; and it was nearly four o'clock in the morning before everybody was safely landed.

"We will not stop in this gallery (Room 14) because it is devoted to modern American paintings, chiefly landscapes, for which you will probably care very little. As we pass, however, look at George de Forest Brush's *In the Garden.* Here you see a tired mother with a baby in her arms and another child clinging to her arm. There are a few dull red flowers in the grass and the baby's dull red stockings are noticeable against the green. This is a very modern work,— and very different from *Washington Crossing the Delaware,* isn't it?"

Quickly walking from Room 15, where many pictures of the Dutch school hang, into Room 16, Doodle took them to look at Fortuny's *Arab Fantasia at Tangiers,* telling them that the Spaniard Fortuny, one of the greatest of modern painters, began life as a poor boy, whose great talents soon made him famous. He painted portraits and Spanish scenes very splendidly and loved the more picturesque Arabs. "Whether this is a religious festival, or a noisy sport,— a sort of Fourth of July celebration — frantic action and noise could hardly be better expressed than in this spirited and beautifully finished picture, that was painted in 1866.

"There is a great deal of noise in this picture, too," added Doodle, as they stopped to look at *Le Bourget*, by De Neuville (No. 61), which represents a scene during the Franco-Prussian War, when the town of Le Bourget had fallen a second time into the hands of the enemy. In the village church, however, eight French officers and about twenty men still resisted, and the enemy had to

fire through the windows before the little band of heroes would surrender.

After this, Doodle showed them Millet's famous *Sower* (No. 79), and as they looked wonderingly at the figure of the labourer, read them Gautier's description:

"'The night is coming, spreading its grey wings over the earth; the sower marches with a rhythmic step, flinging the grain in the furrow; he is followed by a cloud of pecking birds; he is covered with dark rags, his head by a curious cap. He is bony, swart, meagre under this livery of poverty, yet it is life which his large hands shed; he who has nothing pours upon the earth, with a superb gesture, the bread of the future. On the other side of the slope a last ray of the sun shows a pair of oxen at the end of their furrow, strong and gentle companions of man, whose recompense will one day be the slaughter-house. This is the only light of the picture, which is bathed in shadow, and presents to the eye, under a cloudy sky, nothing but newly ploughed earth.'

"Millet was very fond of representing the peasants," Doodle continued, "and generally showed them at their work,— men and women ploughing, sewing, reaping, stopping to take noon-day rest, or pausing to murmur a prayer at the close of day. Here is another painter who sees the beauty and the pathos of lowly life — the Dutch painter Israels. Come here now and look at the *Frugal Meal* (No. 48). In all of Israels's pictures — and he has painted a great many, for he is a very old man now — he always shows us the true feelings of the people he paints.

"How do you like this picture?" Doodle asked,

as they entered Room 17 and paused before Couture's *Day Dreams,* also called *The Idle Student.*

"Very much," said Jack. "I love to blow soap bubbles myself and watch the pretty colours turning round and round. Those look like real bubbles."

The children liked the graceful boy dressed in black velvet with a somewhat limp white collar, who leans back in his chair with one hand on the heel of his shoe and in the other the straw, by means of which he has blown the two bubbles that he watches so dreamily. Doodle called attention to his books and papers on the table, also the boy's spinning-top and the glass of soap suds, adding: "Perhaps the boy is not as idle as he looks — I think the painter means to tell us that he is a dreamer and a thinker; and, perhaps, an artist; and that the laurel wreath of success will crown him one day. See! there it is above his head; but he does not see it."

From this picture, they went to look at Gabriel Max's *Last Token.*

"This picture tells us a story," said Doodle. "The pretty young woman in a white dress with the black mantle wrapt around her head and shoulders is a Christian martyr. There she stands in the arena condemned to death. The heartless people have gathered to see her devoured by the wild beasts. Of course, she is pale, for she knows that fierce leopard creeping through the wall beneath the raised iron grating at her left and the hyena and other leopard rolling about on her left will soon be crushing her bones. Poor thing! We can't see the spectators, but somebody has thrown her a rose. See it,— at her feet? *She* has seen

it, and looks up to see the person who threw her *The Last Token.* Do you think it came from the hand of a relative, or a friend, or a lover, or a stranger whose heart was touched with pity? The artist has made a fine contrast between the gentleness of the girl and the ferocity of the wild beasts."

"Doodle," said Jack suddenly, "do you know that Rajah is dead? These animals reminded me!"

"No! What Rajah?"

"Rajah in the Zoological Park," replied Jack.

"Yes;" said Nora. "Handsome, cross old Rajah. We saw it in the paper this morning. Yes; he choked himself to death."

Now entering Room 18, also devoted to modern paintings, they first stopped in front of Rosa Bonheur's *Weaning the Calves* (No. 449). "See how unhappy the mother cow looks," said Doodle, "as she stands by the bars that separate her from the calf? The poor calf, too, looks up pleading for an explanation. Four other calves are awaiting their mothers who are coming slowly down the hill towards their pen. Notice how finely the snowy streaked mountains rise into the clear blue sky beyond the hills.

"Rosa Bonheur was one of the greatest of all woman painters. Her specialty was animals. She was French, born in Bordeaux in 1822. She began to draw when she was only four years old, and attained great fame at an early age. Medals and honours were showered upon her and she was so highly thought of that during the Franco-Prussian War the Crown Prince of Prussia issued orders that her studio and residence near the Forest of Fontainebleau should be specially protected. Peo-

ple in this country were so enthusiastic about her, that she was offered a house if she would come to New York to live. We shall see her most famous picture, the *Horse Fair,* presently."

By way of contrast, they looked at Gérôme's *Prayer in a Mosque;* and Doodle explained it as follows:

"The Mosque is in Old Cairo — just the sort of a place you read of in the *Arabian Nights;* and these people who are praying there in such splendid costumes are real *Arabian Nights'* people. Some of them are standing in a line under the old Moorish arches; and on the right are three gorgeously dressed Mussulmans. Just look at their silks and velvets and the lovely colours of their costumes! Look, too, at the pigeons on the floor of the Mosque!"

Passing to another canvas in the the same gallery, Doodle asked:

"You know this picture,— don't you? It is called *The Storm* (No. 476), and is by P. A. Cot. A young boy and girl are running to escape the approaching storm. Notice how black the clouds are and how the lightning is flashing. The wind is blowing out the yellow silk scarf they are holding above their heads. The girl looks scared, but the boy looks pleased to be taking care of her. As the landscape is tropical, I think the country must be the Island of Martinique and the boy and girl, Paul and Virginia of Bernardin de St. Pierre's story."

Passing into another room, "I myself love the early French painters," said Doodle, "and one of my favourites is Greuze. This one by him, called *Volupté,* you see, is only the bust of a young girl

with blue eyes and light hair and thin white drapery about her shoulders; but look at those liquid eyes and that dewy mouth! Isn't it wonderful to get all that expression and life with a few strokes of the brush? How did Greuze make those eyes swim in their own light and how did he paint that drapery?

"I think you will like this portrait of the *Princesse de Condé,* by Nattier, another French artist. This picture once belonged to Marie Antoinette. Just think of it. When this picture was painted in 1756 the court ladies had a great fancy for dressing themselves up as mythological goddesses and having their portraits painted as Juno, or Ceres, or Diana. The Princess de Condé is pretending that she is Diana. How beautifully the leopard-skin is thrown over her white dress! Hasn't she fine eyes?

"*This* lady," continued Doodle, pausing before Largillierre's *Marie de Thorigny,* "was called in her own time 'as beautiful as the day.'"

"Oh, I think that is a lovely picture!" cried Nora, looking admiringly at the lady standing by a fountain and allowing the water to trickle over her right hand, while with her left she holds her handsome red robe.

"Oh, look at the parrot beside her cracking a nut!" exclaimed Jack.

"And the little negro boy with a little dog in his arms," added Nora. "What is he doing there, Doodle?"

"He is a page. In the Seventeenth Century it was very fashionable for rich ladies to have little negro boys to attend them, and they dressed them

up in fantastic costumes. You will often see them in portraits and pictures of the day. They used to have for pets parrots and monkeys and negro boys and spaniels."

Next they looked at Boucher's *Rescue of Arion from the Waves,* and Doodle told them that "Arion, the Greek poet, was going home from a musical contest in Sicily, where he had won the prize, and was thrown into the sea by the jealous sailors; but he was not harmed in the least, because the dolphins, which had gathered around the ship, saved him. Boucher, the charming painter of lovely mythological scenes, whose colours are so bright and soft that they look as if he had dipped his brush into dewy flowers instead of paint, shows Arion on the back of a dolphin unconcernedly playing the lyre, while the gods, nymphs and dolphins, enchanted by his music, have come to hear him. On the left, you see the ship is sinking in a storm; but beyond the heavy clouds there is the bright blue sky. How lovely is the colour of the red drapery around Arion."

Room 20, devoted to the English School, did not particularly interest the children, for it contains chiefly portraits and landscapes. They were attracted, however, by the little girl standing in the woods near a pool of water with a cat for her companion; — a picture once attributed to Gainsborough and now to Gainsborough Dupont. They liked still better Henry Morland's *Miss Rich Building a House of Cards*, supposed until recently by Hogarth. Noticing how much they enjoyed making the acquaintance of this little girl, Doodle said:

"Little Miss Rich is about your age, Nora. How would you like to have a white dress and a white cap like hers?"

"I don't think I should like it very much," said Nora, "but I like it on her."

"I have never been able to get cards up as far as that," said Jack, much interested in Miss Rich's achievement.

The children did not know why they liked it so much; but the charm of the picture lies in the natural pose of the little girl and the delicate colouring.

They also enjoyed Landseer's dogs — *Alexander and Diogenes,* for the dogs struck them as being so natural.

"Oh, isn't that Napoleon?" asked Jack as he caught sight of Haydon's picture in which the hero stands statue-like on a cliff with his arms folded across his breast and looking intently on the sun that is setting upon the ocean.

"Yes, it is. And he has on the uniform he wore at the Battle of Waterloo. He is now at St. Helena, thinking very mournful thoughts in his island prison."

This, however, not being important enough to dwell upon, Doodle called their attention to the most celebrated picture in this Room — Turner's *Whale Ship.* Neither Jack nor Nora could make anything out of it.

"Look again. Suppose we try and see what is really in the picture," said Doodle, continuing: "We see a white ghost-like ship with all her sails spread, coming through the misty atmosphere. Right here in the foreground a big whale has been harpooned and is spouting bloody water from his

Friedland, 1807. By Meissonnier.

wounds. See; he has upset with his lashing tail one of the four boats that are after him. But this is not all by any means. The beauty and grandeur of the picture is its brilliancy of light in the sky and in the water, the movement and immensity of the waves, the rush of the coming boat, and the action of the monster as he splashes and spouts in the sea.

"Now let us go back into the Vanderbilt Gallery and look at Turner's *Grand Canal Venice,* (No. 165). Everything is plain here. We seem to be standing at the entrance to the Grand Canal: the church of Santa Maria della Salute and the Dogana Vecchia are on the right; and a long row of buildings extending to the Doge's Palace and the Campanile are on the left. Gondolas, barges and fishing-boats are seen in the broad light of a sunny day and are clearly reflected in the water. How beautiful and how fantastic is the lovely city of Venice, which seems to melt into the clouds that float in the blue sky! No wonder this city was called the 'Queen of the Adriatic.' Now let us go back again to the *Whale Ship.* You see it still seems to be a chaos until we look at it closely; but after we accustom our eyes to it and appreciate the richness and glow of its colours, all the other pictures around it seem dull and cold."

Passing into Room 21, devoted to pictures of the French School, Doodle took the children first to see the most celebrated picture in this group — Meissonnier's *Friedland 1807.* Of course, they wanted to know what the name meant. Doodle, therefore, explained that it was one of Napoleon's great battles in the year 1807, and then went on to say that "*Friedland 1807* is the largest canvas Meis-

sonnier ever painted; but it is just as full of detailed finish for which this painter was noted as his small paintings. Meissonnier said of this picture that he did not paint a battle scene. What he wanted to do was to paint Napoleon at the height of his power and to represent the adoration and love the soldiers had for their great Captain. So, there he is on that little mound, mounted on his famous white horse, surrounded by his generals and aides. The cuirassiers are on their way to the battle and are charging through a wheat field, every soldier rising in his stirrups and crying *'Vive l' Empereur!'* See how their swords gleam in the sunlight, and how the sunlight shines on the helmets and armour and the splendidly groomed horses. Look at the bugler on the extreme right. He is one of the most admired figures in the picture. On they dash, sure of victory, over the wheat field that will never ripen. Napoleon salutes them as they pass. Light clouds float in the blue sky above the raging battle that we do not see; but to which these troops are hurrying. *Friedland* was painted in 1875."

Then, leading them to the neighbouring *Defence of Champigny,* another, but very different battle scene, painted by Detaille, Meissonnier's favourite pupil, in 1879, three years after *Friedland,* Doodle told them that many critics consider the *Defence of Champigny* every bit as great a picture as *Friedland;* and that it represents an episode in the Franco-Prussian War. Opening the catalogue Doodle read them Detaille's own description of his picture:

"'It is the moment when the division of General Faron after having taken Champigny situated

above the Marne, fortified itself in the village and defended, foot by foot, the house and enclosures against the return attack of the Saxony and Würtemberg divisions in the battle of 2nd December, 1870. The château which I have shown is one of those which are found at the fork of the two roads at Chennevières — a place well known to those Prussians who took part in the scenes of the siege of Paris. The officer shown in the centre of the picture is General Faron, who was appointed General of Division on the field of battle. The foot soldiers belong to the 113th Regiment of the Line, who lost a great number in the three days' fight. The sappers, who are making the embrasures in the wall to allow the sharpshooters to fire under protection, and are barricading the opening with all kinds of material; the artillerists, who are placing the battery guns in position; all likewise were under the orders of General Faron, who at this time commanded the right wing of the French army.'"

"I don't like fighting," said Nora, "and so I don't like those pictures *at all.* I don't like *either one of them.*"

"I like the man blowing the bugle on horseback in *Friedland,*" said Jack. "I like them both."

"Then let us look at something you will both like better," said Doodle, "oh, here is the *Horse Fair!* Rosa Bonheur painted this splendid work in 1852. It was exhibited in several French cities. At last it was brought to this country.

"Yes; the horses are life-size and they are being led by their grooms past the judges. They are perfectly conscious that they are on exhibition."

"That certainly is a fine picture," was Jack's comment.

"I think so, too," Nora acquiesced.

"Do you remember the story I told you the other day about Joan of Arc, or, as the French call her, Jeanne d' Arc?"

"Oh yes," replied Nora, "the young girl called the Maid of Orleans, who became a soldier and saved France and who was burned by the English?"

"You can imagine the many pictures that have been painted of her; but most of them show her as a soldier mounted perhaps on her horse and in full armour. Here is a very unusual one representing the strange French girl merely as a simple peasant standing in the garden of her rustic cottage. It is by Bastien-Lepage (No. 550). You see the artist has painted her in her homely dress and as a rude peasant without beauty or grace, but see what a peculiar stare she has in her eyes. They gaze fixedly upon the vision she sees and which appears to us by reflection in the shrubbery behind her. Another thing remarkable in this celebrated work is the beautiful effect of the light that is diffused over the whole scene; and we may even say that the air seems to circulate freely behind the trees."

"Well, I don't see how in the world they can paint light and air," said Jack. "Could you do it, Doodle?"

"Indeed, I could not," replied the latter, "but I think it is very beautiful when it is accomplished — don't you? Now come over here and let us look at the light and air in *this* picture. Let us stand here a moment and get our eyes used to it. It is called *The Balloon,* and is by Jules Dupré. These French peasants were working in this green field of new-mown hay; they suddenly see a bal-

loon — there it is sailing in the clouds! See? They are perfectly astonished. All the figures are splendidly drawn and beautifully painted and the sunlight is exquisite. See how it touches the woman's brawny arm?"

"If I had painted that picture," said Jack, "I should never have painted a balloon. I should have had an air-ship."

"When the artist painted that," replied Doodle, "in 1886, about twenty-five years ago, air-ships were not thought of seriously. But talking of light — here is a painter of light — Monet; and let us look at *Poppy-field*. With this painter, we are just about as far from the Primitives as we can get; and I think with this picture we will take leave of this room."

Gallery 24 claimed a longer visit than the other rooms because here are hung many of the most valuable works owned by the Museum. First they looked at the Portrait of a *Florentine Lady of the Fifteenth Century,* dressed in a rich gown, with a wreath on her flowing golden hair, and holding a salver of fruit in her hands.

Seeing that Jack and Nora were interested, Doodle told them that this was thought to have been painted by Leonardo da Vinci, the greatest painter of the Fifteenth Century, whose *Mona Lisa* in the Louvre is the most famous portrait in the whole world.

Next they stopped before one of the most beautiful portraits in the gallery, by Van Dyck, which represents James Stuart, Duke of Richmond and Lenox standing in a graceful position with one hand on his hip and the other resting on the head of a large greyhound that looks up into his face. The

young Duke has light curling hair that falls over his lace collar beneath which is a broad blue ribbon from which a gold locket is hung. His costume is a rich figured black silk with the Order of Saint Esprit on the left shoulder. His stockings are white, and large rosettes ornament his dark shoes. Doodle told them that Van Dyck was one of the greatest Flemish painters, and that he was a pupil of Rubens; and that after travelling in Italy, he became a marvellous painter of portraits, went to England and was appointed court-painter to Charles I., who knighted him.

After enjoying this canvas, Doodle showed them a curious picture of the Madonna standing in a Gothic church with the Child in her arms and angel-musicians at her side instead of saints, and told them that this was supposed to be the Cathedral of Salamanca; that this quaint picture was in Spain for hundreds of years; and that it was a work of the early Flemish School by Jacques Daret (called Maître de Flemalle); that the Flemish painters loved to represent the Virgin standing under the arches and columns of the beautiful Gothic churches and cathedrals; and that they loved also to represent angels playing upon musical instruments of all kinds, or singing.

"This is a 'Primitive,'" Doodle added, "but it is so valuable that it is hung among the gems of the collection."

By way of contrast, Doodle next pointed out the beautiful Madonna and Child by Giovanni Bellini and explained that this master was one of the greatest of Italian painters; and that his Madonnas have beautiful oval faces with serene tender expressions; always wear a blue hooded mantle; and

have long necks and long and large hands of a rather peculiar shape. The little Jesus that she holds so lovingly is always a pretty and attractive baby, with a face of intelligence and sweetness. With these hints they would always know a Giovanni Bellini. Next, they looked at a picture by the great Spanish painter, Murillo, of *St. John the Evangelist,* which amused the children very much. They did not care about the saint seated on a rock with a book in his left hand and a pen in his outstretched hand; but the eagle with the ink-bottle in his beak they heartily enjoyed.

Doodle then showed them some of the works of the Dutch painters, telling them that they loved to paint details and scenes of every day life — ladies taking music-lessons, women working in the kitchen, men smoking and drinking and eating and laughing, and children at play. They usually painted on small panels, or canvases, and with tiny brushes, and for that they are called " Little Masters "; and " among the Dutch painters who are known by the name of Little Masters," Doodle continued, " no one takes higher rank than Vermeer of Delft. He painted very few pictures, but these few are greatly prized. Vermeer is famous for his treatment of light and for his beautiful colour. He generally gives blue and grey tones. His subjects are simple. He painted the people he knew, and at their ordinary occupations. This one, for instance, shows a *Woman Writing a Letter;* and this one, which is considered one of the gems of the gallery, shows a *Young Woman Opening a Window* with one hand, while with the other she is holding a brass jug. Her bodice is buff, her skirt dark blue and she wears a large white hood and a linen collar.

Another picture by one of the Little Masters that they enjoyed was Metsu's *Visit to the Nursery.* Dirk Hals's *Children Playing Cards* and *Girls with a Cat* also delighted both Jack and Nora hugely.

"Here is a master, claimed by both the Dutch and Flemish," said Doodle, "who painted in what is called a broad style. I want you to remember the name of Frans Hals, because he is one of the greatest of all portrait painters."

Then they went to study the *Portrait of a Lady* and that of *Michel de Wael,* and the two portraits of Herr Bodolphe and his wife, and Doodle made the children stand a long distance off and look at these works and then come close to the pictures and see the few slaps of paint that give the illusion of a hand or a mouth or a nose or a hat, or glove, ruff or cuff. They were perfectly astonished. Then passing through Room 25, where a group of miscellaneous pictures are hung, they went to Room 26 to see Frans Hals's great picture of *The Painter and his Family.*

They were rather tired by this time and Doodle thought it better to omit all the other collections on this floor.

As they reached the grand stairway, the children caught sight of the figures in Japanese armour in the long corridor (No. 8).

"Oh! what are these?" exclaimed Jack, fascinated by the fantastic appearance of these effigies of Oriental soldiers.

"Oh yes! let us stop and look at them," acquiesced Doodle. "Indeed they are most interesting. They are specimens of Japanese armour.

"In the history of every country there are two periods — one of myth and legend before

people begin to keep a record of events as they occur. In their myths the Japanese say that they came from the Sun-God and the Moon-Goddess, but their real history begins about the Fifth Century. From the Twelfth Century down to about 1867 the Japanese did not change their habits or customs. You know the Emperor, or Mikado, who ruled over the country, ranked first, and next came the barons who were called *daimios*. The various *daimios* had great or small estates, and each *daimio* was a sort of little king with subjects or tenants of his own, of varying rank.

"In Old Japan the words soldier and gentleman were one and the same; and the military class was called the *Samurai*."

"Who did they fight with?" Jack inquired.

"They fought the Coreans; they fought the Chinese; and they also fought each other; and until the Sixteenth Century (when the Portuguese introduced fire-arms), they fought with swords and bows and arrows; and now I suppose you would like to know something about their armour. At first they wore leather armour and afterwards armour of bronze and other metal.

"This one, for instance, is one of the earliest suits and dates from about the year 1000, or, if you like better, nearly two thousand years ago! The coat-of-mail is made of boiled leather which is arranged so as to look like fish-scales. The shoulder guards are also of boiled leather and so is the mask, which represents a *Tengu,* or god of the mountain.

"Now this suit was made nearly three hundred years later and dates from 1280. This is a complete suit of iron covered with black lacquer. In-

stead of leather scales bands of metal are now used. Do you notice the little brown rabbit on the helmet?

"The idea of a Japanese soldier was to look as ferocious as possible, and that is why these suits of armour that we are now looking at are so terrible.

"The most elaborate armour was made of metal scales and plates tied together with ornamental cords of coloured silk or leather. These cords were of the greatest importance. Now, for instance, this suit dating from 1630 has fastenings of white silk. White is the colour of mourning and the man who wore this believed that he would perish in the service. Here is another suit lacquered in red — the colour of the fire demon, and dates from about 1600.

"In Japanese armour the helmet was often ornamented with a dragon or crest of some kind rising from the centre, or a decoration branching out on each side like the horns of some animal. The Japanese helmet was intended to give the warrior a fierce and grotesque appearance, and this was intensified by lining the inside with red to reflect the face. The face was also protected by a kind of visor or mask which was separate from the helmet and attached to it by strings. Sometimes it covered the whole face having holes for the eyes and nostrils and sometimes only the cheeks and face below the nose. The masks were named according to the kind of countenance that they represented — swallow-face, monkey-face, old man's face, wrinkled face, woman's face, young boy's face, ghost, evil demon, female demon, Corean's face, all of which were intended to give a hideous and deceptive appearance to the wearer. Sometimes hair — black, red or grey — was placed on

The Horse-Fair. By Rosa Bonheur.

upper lip, chin and cheeks of the mask or hair was painted on the metal.

"You can imagine that those who owned such splendid suits of armour valued them highly and took great care of them. Every separate piece was wrapped carefully in silk, or cloth-of-gold, and was then placed in a rich chest of lacquer or costly wood and decorated with bronze or gilt ornaments. This handsome coffer was in turn encased in a big leather box, also decorated with bronze; and it is because of the great care the Japanese took of their armour that suits have been preserved for centuries.

"There — see they are beginning to close the museum — so we really must hurry away."

"What a fine afternoon we have had," said Nora. "I enjoyed it so much."

"I think I liked the Natural History Museum better," said Jack.

"Oh, I didn't," said Nora, "I like the pictures."

CHAPTER X

MORNINGSIDE AND RIVERSIDE PARKS

IN WHICH DOODLE POINTS OUT THE HISTORICAL LANDMARKS AND DELIGHTS THE CHILDREN WITH SOME ROMANTIC STORIES OF THE HUDSON RIVER UNTIL THE GOBLIN OF THE DUNDERBERG CALLS UP A THUNDERSTORM THAT SENDS THEM SCURRYING HOME.

"Morningside Park is much larger than it seems," said Doodle, one afternoon when the happy trio stood looking over the parapet above the wide stairway across the sea of houses that stretches far away into the distance. "It is half a mile long, and, though it is very narrow, it contains thirty-two acres. We are on the eastern slope of Bloomingdale Heights. South of us lies Central Park, and on our right, the Cathedral of St. John the Divine. We are now looking over the battlefield of Harlem Heights. Shall I tell you something about that battle?" Without waiting for permission, Doodle continued:

"During the Revolutionary War, in September, 1776, it was decided that the American Army should move northward; and so, on the 13th of that month, a rear guard of 4,000 men was left in New York under General Putnam, while the main body of the American army, followed by a number of American

families, moved towards Mount Washington and Kingsbridge.

"General Washington made his headquarters at the Apthorpe House on the Bloomingdale Road.— But wait a minute, I must tell you something about Bloomingdale. Bloomingdale was originally an old Dutch estate along the Hudson River above Seventy-seventh Street; and the Bloomingdale Road ran along from the lower part of the city to Harlem. It was described as 'a country drive of unsurpassed beauty up hill and down dale, varied with many a curve and at short intervals enlivened with an enchanting view of the Hudson.' The Apthorpe House, the home of a rich English gentleman, was situated at what is now Columbus Avenue, between Ninetieth and Ninety-first Streets.

"Well, to resume the story: — as the troops marched along, a sort of skirmish with the British took place; and when General Washington heard the firing, he jumped on his horse and rode down the Bloomingdale Road into the Kingsbridge Road and reached a cornfield where the frightened soldiers came flying along. He tried to bring them to order, but the panic was too great; and so General Washington was forced to order a retreat. Under the guidance of Major Aaron Burr, however, the scared soldiers reached Harlem safely; and Washington then selected as his headquarters the house of his old friend, Col. Roger Morris, who, having remained true to the British, had fled into the Highlands on the Hudson. His house is still standing on 169th Street, not far from High Bridge. Washington's army was, therefore, on Harlem Heights, and the British army, on Bloomingdale Heights; and the two hostile camps were

divided by Harlem Plains. We looked over part of this scene some time ago, you remember, when we took a drive in the cab around the Concourse in Central Park; and now we are looking upon it again, from another point of view.

"The British General, Howe, made the Beekman House on Turtle Bay (East River between 44th and 46th Streets), his headquarters, and his troops were encamped in a line extending from Horn's Hook (89th Street) across the island to Bloomingdale.

"After spending the night out of doors on Harlem Heights, the American troops were informed the next morning that the British were approaching by McGowan's Pass (you remember we were there ourselves in Central Park) to Harlem Plains and they bravely met them at a rocky gorge and held it until re-inforcements came. General Washington, who was at the Morris house, rode to his outpost and gave orders to Colonel Knowlton to take his Connecticut Rangers with Major Leitch's three Virginia companies to the rear of the enemy, while a pretended attack should be made in the front. The battle was short but severe. The British were triumphant, and so General Washington thought it best to order a retreat. During the conflict both Colonel Knowlton and Major Leitch were killed. Bravely fighting, they fell right here in Morningside Park — about Ninth Avenue and One Hundred and Nineteenth Street."

"What became of the British after that?" Jack inquired.

"They strengthened McGowan's Pass and placed strong pickets — you know what pickets are — in

Cathedral of St. John the Divine, overlooking Morningside Park. From a photograph by Mr. Lewis W. Davidson.

front of their lines, and brought around vessels to guard them in the Harlem and Hudson rivers."

"What did Washington do?"

"He stayed on Harlem Heights for three weeks, and then took his army into the Highlands of the Hudson."

"Did they have any more battles?" asked the bloodthirsty Jack.

"Oh *please* don't tell us anything more about fighting," pleaded Nora, "I don't like battles."

"Yes; there was the Battle of White Plains in October; but I am not going to tell you about that now; for we want to cross over to Riverside Park."

Walking up Morningside Avenue, to One Hundred and Sixteenth Street, they soon found themselves passing Columbia University. As the children wanted to know something about the history of this institution, Doodle told them that Columbia was originally a British school, known as King's College until the Revolution, when, of course, it became American.

"King's College was a riverside college just as Columbia now is," continued Doodle. "The original building occupied the land between Murray Street, Barclay Street, Church Street and West Broadway, and the ground sloped down to the Hudson River. In 1775, the building was used for a British Prison. After the Revolution its name was changed to Columbia, and in 1857 the college removed to Madison Avenue and 49th Street. Now Columbia again overlooks the Hudson.

"Well, never mind Columbia University and its fine buildings, for here we are in Riverside Drive, which follows Riverside Park from Seventy-second

to One Hundred and Thirtieth Street. It is continued beyond the Park to One Hundred and Fifty-second Street. Riverside Park is much larger than Morningside Park, you see. The two features of the Park are the Soldiers' and Sailors' Monument, and Grant's Tomb which is now looming up before us.

"The only mausoleums to which Grant's Tomb may be compared," Doodle went on to say, "are Napoleon's in the *Hôtel des Invalides* in Paris, where that great general sleeps on the banks of the Seine just as the American hero sleeps on the shores of the Hudson, and the wonderful Taj Mahal at Agra, under whose dome lie the bodies of Shah Jehan and his wife. The bodies of General Grant and his wife rest here in two red porphyry sarcophagi. You can see the two big stone coffins from a circular opening in the main floor, and you can go down into the crypt, if you like. Shall we go inside?"

"I don't want to," said Nora.

"Neither do I," Jack assented. "It is so nice outside."

"Shall I tell you some more about the Tomb, then?"

"Oh yes; and about General Grant, too," the children replied together. "Well, then, in the first place this great Tomb was paid for by the people of the United States; some of them subscribed thousands of dollars and others only a few cents; and it took many years to build this great monument to the memory of the great American general, who brought the terrible war between the North and South to a close.

"The Tomb was finally completed and dedicated

on April 27, 1897, with impressive ceremonies. There were also a big naval parade and a military parade. The Mayor of New York made a speech in accepting the monument on behalf of the city; President McKinley made an address and General Horace Porter another; and there were flowers and wreaths and music and crowds of people. Many distinguished guests were also present, and all of General Grant's family including Mrs. Grant, who now lies beside him."

The children were too fascinated by the charm of the lovely river sparkling and shining in the sunlight which touched the trees on the opposite hills, and which was so gay with sailboats and yachts and excursion boats, to wish to leave it for a moment. Heavy clouds, however, were gathering in the west, and occasionally the Palisades in the distance were darkened by a floating cloud; but this play of light and shade only added to the charm of the afternoon. Jack and Nora now asked Doodle to tell them something about the river. Doodle suggesting that they should seat themselves comfortably on one of the benches, began:

"In the far distance to the north, almost directly ahead of us at about One Hundred and Seventy-sixth, and One Hundred and Eightieth Streets, lies Fort Washington, which in Revolutionary days was a strong earthwork covering several acres with a sort of citadel inside which contained the powder magazine. Fort Washington was a strong fort in its day because it mounted twenty cannons besides smaller pieces, while the redoubt beyond it at Jeffrey's Hook, Fort Tryon (at about One Hundred and Ninety-fifth and One Hundred and Ninety-sixth Streets)

had only two guns. Still further along the river, at Spuyten Duyvil Kill (Two Hundred and Twenty-seventh Street) there stood another little fort of only two guns, called Cock Hill Fort.

"Nearly opposite Fort Washington lies Fort Lee, or Fort Constitution; and three or four miles below Fort Lee at the base of the Palisades, was, in Revolutionary times, a little village called Bull's Ferry. Below the village on Block House Point stood a block house, which General Wayne attacked on one occasion when he captured some cattle; and the witty Major André made fun of this expedition in his poem called *The Cow Chase.* General Knyphausen held Fort Washington at this time and Lord Cornwallis held Fort Lee.

"Our river is not only famous for the historic events that took place on its banks, but for its beautiful scenery, which has inspired many quaint and romantic legends. Its waters travel the long distance of three hundred miles to reach the ocean. Henry Hudson, whose name it now bears, appropriately called it "the River of the Mountains." Its Indian name was Shatemuc. The Dutch called it Mauritus, for Prince Maurice of Nassau, and the North River, because it formed the north boundary of their possessions. As we look north, the Palisades extend on the west bank from Hoboken to Piermont, nearly opposite Dobb's Ferry on the east bank; and there the river spreads out into the beautiful Tappan Zee. Beyond this is Haverstraw Bay, and beyond that the Highlands — a cluster of wild, thickly wooded, rock-ribbed, and picturesque mountains. Beyond these again and to the west are the famous Katzbergs, or Catskill (Catscreek), Mountains, which the Indians called by a

prettier name — Onti-Ora, meaning Mountains of the Sky.

"And so the beautiful river above which we are now walking comes down from the hills, passing places that have witnessed stirring deeds and battles, and whose names are familiar in song and story and legend. True or not, everybody associates Spuyten Dyvil with Washington Irving's story of Governor Stuyvesant's trumpeter, Anthony Van Corlear, who lost his life while attempting to swim across the river at this point, *in spite of the devil.* Stranger than he, is a little Dutch goblin who is said to haunt the Dunderberg (Thunder Mountain) in the Highlands. He wears trunk hose and a peaked cap and has a speaking trumpet in his hand, through which he gives orders in Dutch for fresh gusts of wind and sharp thunder claps. At his command many little goblins play all sorts of tricks on the sailors when the storms are raging on the river.

"But you don't have to go as far up the river as the Dunderberg to see phantoms," continued Doodle, noting the look of intense interest in the eyes of both Jack and Nora. "A Phantom Ship, for instance, comes down as far as Hoboken. Yes; past the very part of the river we are looking upon. Shall I tell you about her?" The children nodded and Doodle went on as follows:

"One summer afternoon some three hundred years ago, great purple clouds gathered over the little town of New Amsterdam, clustered round the Fort, with its tiny houses and gardens and canals and its few sail boats lying at their wharves. These purple clouds grew darker and darker until they became almost black, and the waves came rolling in from the Bay and the wind blew hard, and the

yellow lightning cut through the sky, and the thunder crashed and banged, and everybody was terrified. You have seen just such storms in New York in the summer. After an hour or so, the storm gradually subsided and finally ceased altogether and the setting sun broke through the clouds and turned all the waves that were still running high and beating against the Battery to ruby and gold and amethyst. Then, all of a sudden, in this fairy-like light, a ship was seen coming up the Bay. She was a big Dutch ship with a high poop and bore the Dutch colours at her mast head. All her sails were set and bellying with the wind, and what was most strange of all was that she was sailing against the wind and tide.

"All the people came out of their little houses to look at her and she was hailed from the Fort— but she made no reply. She took no notice of anything or anybody, but went flying up the Hudson. Then some of the men got a boat and rowed after her, but just as soon as they got near her — she seemed to fly like the wind and get half a mile away. When they finally succeeded in getting near enough to see the crew, they noticed that everybody was dressed in the Dutch style, the officers wearing doublets, high hats and feathers. Not a word was spoken by anyone on board; indeed, they all stood motionless as statues. The ship seemed to be managing herself — she kept on flying up the river, getting smaller and smaller in the evening sunlight, until at length she disappeared altogether.

"The people of Manhattan were very much puzzled. They talked over the strange occurrence; but they shook their heads — they could not understand it at all.

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A Vista of Riverside Park and Grant's Tomb. Captain Tom Baldwin is sailing in his dirigible balloon over the English Battleship *Drake*.

"Day after day and week after week went by, but the Phantom Ship never came back down the Hudson. Captains of sloops seldom arrived without having some tale to tell about that Phantom Ship: sometimes she was seen near the Palisades; sometimes off Croton Point; and sometimes skirting the Highlands; but she was never seen above the Highlands. Sometimes they saw her during a thunderstorm, when a flash of lightning showed her flying across the Tappan Zee, or over the angry waves of Haverstraw Bay. Irving says:

"'At one moment she would appear close upon them, as if likely to run them down, and would throw them into great bustle and alarm; but the next flash would show her far off, always sailing against the wind. Sometimes in quiet moonlight she would be seen under some high bluff of the Highlands, all in deep shadow, excepting her top-sails glittering in the moonbeams; by the time, however, that the voyagers reached the place, no ship was to be seen; and when they had passed on for some distance and looked back, behold! there she was again, with her top-sails in the moonshine!' At least that was the tale the skippers told.

"One strange thing about this boat was that she was never seen except just before or after a storm; and for this reason the skippers of the Hudson called her the *Storm Ship*.

"Even now she is supposed to come down the river as far as Weehawken and Hoboken; but she particularly haunts the Tappan Zee, the Highlands and Point-no-Point. People who live along the river fancy that they see her on moonlight nights and think they hear the singing of the crew."

"What do they say the ship is?" asked Jack.

"Some people say it is the *Flying Dutchman;* others, that it is the *Half-Moon,* with Henry Hudson and his crew, going to, or returning from, their revels in the Catskill Mountains."

"What did they do in the Catskills, Doodle?" asked Nora.

"Why, they played ninepins. Don't you remember the story of Rip Van Winkle?"

"No, I don't remember it," Nora answered.

"Well, perhaps Jack will tell it to us?"

"No, I can't tell it," said Jack. "All I know is that Rip Van Winkle went to sleep and slept for a hundred years; but I don't remember about the ninepins. Won't *you* tell us the story, Doodle?"

"All right, I will. We will sit here on this bench and look on the beautiful Hudson, the very waters of which have just come down from those haunted mountains, where poor old Rip slept for twenty — not a hundred — years, Jack."

"Well, then I'll begin. A few years before the Revolution, while New York was under the British rule, there lived in a little Dutch village at the foot of the Catskill Mountains, a simple-hearted, good natured man, named Rip Van Winkle. Everybody was fond of him except his wife; and perhaps she had some reason on her side because Rip was very lazy, and spent most of his time at the tavern; and when not there, talking with his neighbours or playing with the children of the village. He let his farm dwindle away, acre by acre, until he only had a little patch of ground left; and this little patch of Indian corn and potatoes was full of weeds. The fence was all dropping to pieces; and it was the most dilapidated place in the neighbourhood. His two ragged children, Rip and Judith, ran wild;

and his wife's terrible temper grew worse. Everybody took sides with Rip Van Winkle because he was so amiable, and blamed everything that went wrong on Dame Van Winkle.

"The village children screamed with joy whenever Rip was seen: he played games with them; he told them long stories about witches and Indians and ghosts; he taught them how to fly kites and shoot marbles; and they followed him wherever he went, hanging on to his coat, climbing on his back and playing all sorts of tricks on him. All the dogs of the village liked him, too; and his own dog, Wolf, was his constant companion, and shared in many a scolding from Dame Van Winkle. Sometimes Rip would take a gun and stroll into the woods with Wolf.

"One beautiful autumn day Rip and Wolf went out squirrel-shooting, and they gradually climbed the top of one of the mountains. Rip was tired and laid himself down on the edge of the precipice. In the distance he saw the Hudson river lighted by rays of the setting sun and he began to think how late it would be before he could get home. What a scolding he would receive from Dame Van Winkle!

"As he was about to go, he heard a voice calling: 'Rip Van Winkle! Rip Van Winkle!'

"Rip was perfectly astonished. The call was repeated. Then Wolf bristled up, gave a low growl, and peered fearfully down into the glen.

"Rip was now frightened himself; for, looking in the same direction that Wolf was staring, he saw a strange figure climbing the rocks, bending under the weight of something on his back, a peculiar-looking creature — short and squat, with thick bushy hair and a long grey beard, dressed in

the old Dutch style — a cloth jerkin with a leather belt and baggy breeches with buttons down the sides and bunches of ribbon at the knees. He bore a keg on his shoulder, and made signs to Rip to come and help him carry it.

" Rip did so; and as they clambered up the mountains, every now and then long rolls of what Rip thought was thunder were heard. Presently they reached a wide cleared space — and what do you think Rip saw? A company of persons like his guide, playing ninepins.

" They certainly were a peculiar lot. One of them had a big head and little eyes like a pig; and another had an enormous nose and wore a great white hat shaped like a tall cone and ornamented with a little red cock's feather. All had long beards. The tallest, who seemed to be the commander, wore a doublet, a broad belt, a high crowned hat and feather, red stockings and high-heeled shoes with big rosettes in them. All were very grave and silent. Not a word was spoken, and not a sound was heard except the rolling of the balls.

" As Rip and his guide approached, they stopped playing and gazed at Rip with such a fixed stare that his heart almost stopped beating and his knees knocked together. Rip's guide now emptied the keg into large flagons, and made signs that he should wait upon the others. Rip was too frightened not to obey; and, after they had all enjoyed a good drink, they began to bowl again; but not a word had broken the terrible silence.

" Pretty soon Rip took a taste for himself. It was good Holland gin, so he tasted some more when the others were not looking, and then more,

and more, and more, until finally he dropped into a deep sleep.

"When he awoke, he found himself on the green knoll where he had first seen the old man coming up the glen. The morning was bright and the birds were twittering. Rip was surprised to think that he had slept the night through after his experience with the party playing ninepins. He felt very stiff and he was amazed to see how long his beard had grown. When he picked up his gun, the rusty old thing dropped to pieces. Then he whistled and shouted for Wolf; but no Wolf appeared in response.

"Though dreading to meet his wife, Rip picked up his old gun and hobbled down the mountain. The path by which he had ascended, however, was now so overgrown that he could hardly find his way. How strange!

"As he entered the village, he saw a number of unfamiliar faces, and everybody was wearing clothes of a new fashion that Rip had never seen. Everybody stared at him in such a peculiar way. What could it all mean? The village had entirely changed in the night! There were rows and rows of new houses and new signs and names were to be seen on all sides.

"Of course, the first thing Rip did was to go home; but to his surprise the roof had fallen in and all the windows were broken and there was no Vrouw Van Winkle to be seen, or heard.

"Then Rip hurried off to the tavern; and this, too, was changed. Instead of the old sign, with a portrait of King George the Third, there was one of General Washington in blue and buff, with a

cocked hat; and in the place of the big tree beneath which Rip was accustomed to smoke his pipe there stood a tall Liberty Pole from which fluttered a flag of stars and stripes that he had never seen before.

"Rip could not understand it at all. What a change since last night. He asked for his old friends and was told that some were dead, and some had gone away. Then he could not understand what the people were talking about. He had never heard about Bunker Hill, the heroes of '76, elections, congress, liberty and all such topics.

"Then he couldn't understand why nobody knew him. After a time he noticed a young woman carrying a little boy in her arms, whom she called 'Rip'; and on asking her who she was, she told him that she was the daughter of Rip Van Winkle, who had gone into the Catskill Mountains twenty years ago and had never been heard of since. Rip then explained that he was her father; and when Judith was really satisfied that this was true, she took him home to live with her, her husband and the little grandchild who was named for him. Cross old Mrs. Rip was dead; and Rip lived happily ever afterwards.

"So that is the famous story of Rip Van Winkle, and I must add that the people who live on the Hudson like to fancy, when they hear the thunder, that Henry Hudson and his crew are playing ninepins in the mountains."

"What became of Wolf?" asked Jack.

"Wolf? Oh! Rip's daughter told him that Wolf came home the morning after Rip disappeared."

"Listen," said Jack, "listen! Don't you hear them playing ninepins now?"

"I certainly do," answered Doodle, as a long

heavy roll of thunder resounded in the distance, "and, moreover, the black clouds are gathering fast. The Goblin of the Dunderberg is evidently calling up a storm, so I think we had better stop the next stage and get home as fast as we can."

"So do I," said Nora.

"Here it comes!" cried Jack, "here it comes!"

CHAPTER XI

A TRIP TO THE STATUE OF LIBERTY

IN WHICH JACK AND NORA ENJOY A BLOW ON THE BAY; VISIT THE EIGHTH WONDER OF THE WORLD; AND ARE REMINDED BY DOODLE THAT THE GREAT CITY OF NEW YORK WAS ONCE THE LITTLE TOWN OF NEW AMSTERDAM.

"Jack! Jack," called Nora excitedly, one bright afternoon as she looked out of the window. "There's the red flag!"

"Oh, jolly!" cried Jack. "Let me see!" He ran to look; and, in a few minutes, they were across the street in Doodle's study.

Perhaps you have guessed that the red flag was a signal. You are right. It was. In fact there were three signals — three pretty little silk flags made by Nora's skilful little fingers. One was a yellow flag, with N. for Nora, worked in the upper left-hand corner; the second, was red, with J. in the corner, for Jack; and the third was light blue, with D., for Doodle, in the same corner. When Doodle placed the yellow flag upon the window-sill in the little stand that Jack had made for the pole, which was about the size of a lead pencil, the children knew they could come over whenever they pleased, or not at all, as they pleased; when Doodle's flag was hoisted, they were forbidden to come under pain of death, for it told them that

Doodle was at work and could not be disturbed; but when Jack's red flag appeared, it conveyed the message: "Hurry across, for I want to see you at once. Special and important business!"

Therefore, on seeing the little red flag waving in the breeze this bright afternoon — over the street they flew.

"I am going to take you to call on a lady," said Doodle, very mysteriously, as they arrived.

"A lady!" exclaimed the children.

"Yes; a lady!"

"Who is she?" asked Nora.

"Where does she live?" asked Jack.

"Do we know her?" asked Nora.

"Have we ever seen her?" asked Jack.

"One question at a time, if you please," Doodle beseeched. "Yes; you have seen her. She is a French lady!"

"A French lady!" exclaimed Jack.

"Oh, we are not dressed well enough to go calling," said Nora.

"Oh, yes you are," replied Doodle, "she won't even look at you."

"Won't look at us!"

"No."

"Won't she speak to us?"

"No."

"Not speak to us!" exclaimed Jack, in perfect astonishment. "I don't think she is much of a lady then, if she won't speak to people who come to see her."

"Yes; and such charming people as we are, too," added Doodle, "it is strange; but what I tell you is true. She will neither look at us, nor speak to us."

"Well," laughed Nora, "Doodle says she is a

French lady, so if she did speak, it wouldn't be any use. We couldn't understand her."

"I can say '*Bon jour, Madame,*'" said Jack.

"So can I," said Nora, "but that's not enough for calling talk."

"Are you going to speak to her, Doodle?" asked Jack.

"No."

"Will she shake hands with us?" asked Nora.

"Heaven forbid!" cried Doodle.

Nora and Jack stared at one another.

"Does she know that we are coming?" asked Jack.

"No."

"How are we going?" asked Nora.

"In a boat."

"In a boat!" they both exclaimed. "How nice!"

"Come along, then," said Doodle.

"Is she handsome?" asked Nora.

"Very."

"Is she tall?" asked Jack.

"Enormous," laughed Doodle. "Do come along, children. Yes, of course, those gloves will do" (to Nora, who was looking critically at her hands), "and so will yours," (to Jack, who at once began to look at his). "Come along."

Not a word more would the provoking Doodle say on the subject when they got into the Subway train at Fiftieth Street.

"We'll get out at Grand Central, perhaps," said Jack.

"I guess Twenty-third Street," said Nora.

These stations were passed, however; and then Nora and Jack watched every succeeding one with

interest. Still they went on and on until they reached South Ferry. It was not until they were nearing Battery Pier that the puzzle was solved.

"Oh, I know who the lady is," laughed Jack, "she's Miss Liberty!"

"Oh, dear," laughed Nora. "Of course, she can't shake hands."

"Do you know how big her hand is?" asked Doodle. "You'll never guess. It is over sixteen feet long, and the index finger is eight feet — two feet longer than a tall man."

"Good gracious!" exclaimed Jack.

"Good gracious!" echoed Nora.

"How big do you think her eye is? Two feet, seven inches across."

"Good gracious!" laughed Nora.

"Good gracious!" echoed Jack.

"Her mouth — a whole yard long — three feet!"

"Good gracious!" screamed the children.

"Her nose? — four feet, six inches."

"Good gracious!" said Nora.

"Longer than I am tall," said Jack.

"From chin to brow our goddess measures seventeen feet, three inches."

"Good gracious!" the children laughed.

"Forty persons can stand in her head and twelve persons in the torch."

"Good gracious!" exclaimed Nora.

"Are we going up?" asked Jack.

"If you want to; yes, I think I can stand it," said Doodle, not remembering the 154 steps with overmuch enthusiasm.

The *Falcon* was at the dock; and so they soon found pleasant seats; and, having a little time to spare, Doodle asked: "Shall I tell you something

about the statue while we are waiting for the boat to start?" Reading assent in the four bright eyes, Doodle began:

"You know that France is a Republic like ourselves and that the pleasantest and most friendly relations have always existed between the two nations. So when this country was about to celebrate the first hundred years of its existence, the French people thought it would be a very nice thing to present some memorial — in other words to send a birthday present. This idea was first discussed in the home of M. Laboulaye at Glavigny, near Versailles; and in 1874 the *Union Franco-Americaine* was formed to collect subscriptions and arrange matters. Soon the plan and model for the Statue of *Liberty Enlightening the World* was offered by Frédéric Auguste Bartholdi, who was already a famous sculptor. The French people subscribed a hundred thousand francs for the statue; people of the United States subscribed three hundred thousand dollars for the pedestal; and the United States Government gave Bedloe's Island for the site.

"The arm with the uplifted torch was the first part to be finished and this was exhibited at the Centennial Exhibition in Philadelphia in 1876 and the head was exhibited at the Paris Exposition in 1878. When completed, it was set up in Paris and on July 1, 1880, was formally delivered to the American Minister in Paris. Then it was shipped to New York in 210 cases, and set up and unveiled in New York Harbour on Oct. 28, 1886.

"The statue is made in separate plates of thin hammered copper and these are all fastened to an immense iron truss-work that was designed by the

famous engineer, Eiffel, who afterwards made the great Eiffel Tower in Paris. M. Bartholdi worked on this splendid statue for twenty years; and it is nice to think that his was the hand that drew aside the curtain and unveiled the noble figure to the New World.

"There she stands in the snows and rains of winter and the hot suns of summer looking towards the Old World. At night her diadem sparkles and her great torch glows with light, just as the sculptor imagined her. When looking upon the beautiful bay in 1870, he said:

"'We will rear here, before the eyes of the millions of strangers seeking a home in the New World, a colossal statue of Liberty; in her upstretched hand the torch enlightening the world; in her other hand the Book of Laws, to remind them that true liberty is only found in obedience to law; and the people of France shall present the statue in memory of the ancient friendship subsisting between the two countries.'

"There is very little danger of her being destroyed as was the Liberty Pole in the Common to which she seems in some sort of fashion to be the sequel; and woe be to him who attempts it.

"So much for the history. Now for the statue itself. Do you know that Miss Liberty is the largest statue ever made?"

"Why no!" both children replied.

"Well, it is. It is three times taller than the famous Colossus of Rhodes, which was one of the Seven Wonders of the World. The Statue of Liberty is often called the 'Eighth Wonder of the World.' We are so accustomed to seeing it that

we rarely think of what an astonishing work it is — wonderful in idea; wonderful in size; wonderful in majesty."

"How big is it, Doodle?" asked Jack.

"From low water to the tip top of the torch it is 305 feet, 11 inches, but the statue itself stands 151 feet, 1 inch from base to torch. It weighs four hundred and fifty thousand pounds, or, if you like better, I will say two hundred and twenty-five tons.

"I suppose I had better tell you something now about Bedloe's Island, to which you see we are hurrying," continued Doodle, after a pause. "Sometimes it is called Liberty Island, but the old name still clings to it, which is that of its owner Isaac Bedlow, who bought it from the Indians and made such a pretty place of it that in 1670 the Governor of New York issued an order to Isaac Bedlow stating that in consideration of the improvements made by him on the island it should be called Love Island and no arrests could be made or warrants served on it without the Governor's special consent.

"After Bedlow's death, Love Island was sold to Captain Kennedy of the British army, who paid £100 pounds for it,— that is $500.

"In 1750 New York bought the island and in 1800 the United States Government took possession of it. It had been used for a pest-house and now it was used for a fort. When the Government decided to give it for the site for the Statue of Liberty, the old star-shaped walls of the Fort were followed for the walls of the pedestal, which makes such a fine effect."

"We're going! We're going!" cried Jack.

"Yes; now we are off. That is Ellis Island on our right, where the immigrants are landed; and

that is Governor's Island on our left; and that is Bedloe's Island, to which we are going, at the very entrance of the Harbour."

"Why is it called Governor's Island, Doodle?" asked Jack.

"Because the old Dutch Governors and the English Governors after them used it as a sort of pasture-land for their cows and coach horses. Indeed, Lord Cornbury liked it so much that he built a fine mansion upon it. It was not always called Governor's Island, though. The Indians called it Pagganck, a name meaning nuts, because there were such splendid groves of walnut, chestnut and hickory, and so the Dutch translated the Indian name and called it Nutten Island. Wouter Van Twiller bought it from the Indians for himself in 1637 and when he went back to Holland, it became the property of the Dutch Government.

"During the war of 1812 it was turned into a battery and fort and old Castle Williams — that old brown plum cake — was erected on the lower end of the island to command Buttermilk Channel. During the Civil War, Castle Williams was used as a dungeon for Confederate prisoners — at one time a thousand were held there. Governor's Island is being much enlarged by artificially made land, and it covers considerably more than sixty-five acres. It is now the headquarters of the Military Department of the East and is the residence of the commanding general. A fitting place for the landing-stage of air-ships, Governor's Island will always be remembered as the starting-stage of Hamilton's thrilling flight to Philadelphia.

"Oh! what a beautiful afternoon this is!" And indeed it was a beautiful afternoon, one of those

bright days in the early autumn when the light seems to be made of molten gold. There had been a storm the day before and the waves were very restless and high and of a dark blue; and very few clouds were in the sky. Bay and river were alive with boats of all kinds — tugs, sail-boats, motor-boats, yachts, ferry-boats, excursion-steamers. Several great ocean liners were also starting for their voyages. In fact, the *Falcon* had to pick her way rather slowly at first to let the *Mauretania* pass. The children were fascinated by this great ship, and ran to the other side of the *Falcon* to watch her gliding along so rapidly towards the sea. Then they became interested in watching Miss Liberty growing bigger and bigger as they approached Bedloe's Island.

The first thing of course, after docking, was to make the ascent.

What a perfect view met their eyes! Facing the ocean, they looked across the Upper Bay through the Narrows towards the Lower Bay and out to sea where they still saw the *Mauretania* leaving behind her a gauzy black veil of smoke. Doodle explained that New York Harbour consists of two Bays separated by Staten Island and between them, a little strait or passage — only a mile wide at one place — called the Narrows, guarded by forts. On the Staten Island side are Fort Wadsworth and Fort Tompkins; and opposite, on the Long Island side, Fort Hamilton guards the entrance, while, off the shore, on an artificial island, stands Fort Lafayette. Below the Narrows, are the quarantine stations and Sandy Hook with its big lighthouse; and off Sandy Hook, Scotland Light Ship — twenty-five miles from New York.

On their right, the Jersey shore presented its long

View of New York from the Harbor.

line of docks and its host of chimneys and oil tanks; and beyond Bayonne lay Staten Island, cut from the mainland by Kill van Kull. On the left and nearly opposite Bayonne, lay Bay Ridge and below it, Fort Hamilton. Nearer to Bedloe's Island are Gowanus Bay, Red Hook and Governor's Island, embraced by Buttermilk Channel, which runs into Wallabout Bay where the Navy Yard is situated. Facing north, of course Governor's Island now lay on the right; Paulus Hook on the Jersey side, on the left; and, directly north, Ellis Island and the noble Hudson as far as the eye could reach. And what a splendid view of New York, too, with all the tall buildings massed together!

"It looks like a giant's castle," said Jack.

"I think so, too," said Doodle.

"And now," said Doodle, when they were again seated in the boat for their return voyage, "I have another interesting thing to tell you about Bedloe's Island. It was the spot where pirates were hanged!" Jack's brown eyes fairly burned with excitement as he looked at Doodle doubtfully.

"Yes, it is true," replied the latter. "There were plenty of pirates in these waters, let me tell you. Captain Kidd was one of them, you know; and Giles Shelley was another; indeed, New York Harbour swarmed with them."

"Was Captain Kidd hanged on Liberty Island?" asked Jack.

"No; he was caught and hanged in London, at Execution Dock on the Thames; but he was a very familiar figure in New York and had a nice house here. New York Harbour has been the scene for many great events in navigation," continued Doodle, "and many famous ships have anchored in

these waters since Henry Hudson's *Half Moon* passed through the Narrows and astonished the Manhattan Indians. Robert Fulton's *Clermont* made her first voyage here in 1807; the steam-frigate, *Fulton,* made her trial trip to Sandy Hook in 1814; here came the first ocean-steamers, the *Sirius* and the *Great Western,* in 1838; and here came the *Great Eastern,* which laid the Atlantic cable. These shores have also welcomed all the record-breaking packet-ships and steamships that made their trips across the ocean, lessening time, and, therefore, the sense of distance, from year to year. War-ships, squadrons, fleets and pleasure-yachts have come and gone and come again, so that indeed we may say our noble river is filled with phantom vessels and that the ghostly *Storm Ship,* of which I told you the other day, is only one of many visions we may see if we have eyes for such things.

"But enough of the past, dear children, let us enjoy this beautiful present. See what pink and gold the sunset clouds are throwing down upon the restless waves and how they swing and sway and reflect these colours in a hundred ways. See how the golden light strikes that little sail-boat and turns it into a fairy craft, fit for Oberon himself; see how the long plume of smoke from that little tug is turned to a veil of rose; look, they have now lighted Liberty's torch, which shines like a blue star that has fallen on the earth, and now her diadem begins to sparkle, too; and see, in the distance, the tall buildings are shining and gleaming like rubies and fire-opals as the light from the sky falls upon their windows; and what is that cobweb thrown across the East River? Was it made for Queen

Mab, do you think? Is it now receiving a chain of golden beads, for, one by one, the lights appear?"

"Why that is only Brooklyn Bridge," explained Jack.

"It looks like a fairy structure to me," said Doodle. "And now, as we are about to land on Manhattan Island again, and see before us those tall buildings that seem to reach into the very sky and in which thousands of persons are busy all day, is it not hard to recall the fact that this was once the little Dutch city of which I told you and of which I showed you pictures? Yes; this was once Fort Amsterdam, with its tiny little houses and gardens clustered around the Fort, the West India Company's houses and the low-roofed church of St. Nicholas.

"The great New York on which we gaze has certainly lost all likeness to the little walled town, whose gates were locked every night at sunset and unlocked every morning at sunrise by the Burgher Watch, who beat their drums and carried their flags of orange and blue, never dreaming of such wonders as Elevated and Subway railways, automobiles and air-ships.

"The *New Netherland* that was swinging at her dock, 800 tons, was the biggest ship they ever saw, or could ever imagine. What would they think if they could have seen the *Mauretania* of 32,000 tons that passed us this afternoon? What would they have said if anyone had told them the ocean could be crossed in five days, or that an air-ship would fly from Nutten Island? What would they have said to a tunnel under the Hudson River and another through the city to Long Island? They

would have considered such things dreams of the insane.

"Here where the old Dutch citizens and their wives strolled, or sat at their doors, or in their prim, trim gardens, smoking and knitting; here where they skated in winter; held their fairs in the autumn; and enjoyed their picnics and May-games in the spring and summer are the stations of the Elevated and Subway trains and offices of the steamships that have turned the ocean into a ferry from the Old World to the New.

"Do we not live in a wonderful age and do we not live in a wonderful city? A city only three hundred years old, but having outstripped every other city in the world in size except London! And how many changes has our city passed through until it has become the city which in our walks and trips and talks we have tried to know?

"One thing alone remains unchanged — the great ocean that sends its delicious salt breezes into our crowded streets to bring us life and health. Beyond the Narrows, it swings and heaves under the sun and moon and starry skies as it did when those great reptiles we saw in the Natural History Museum roamed over the plains and hills; as it did when the Red Men peopled the dark shores of the bay and river and darted over the waves in their swift canoes; as it did when the *Sea-Mew* brought Peter Minuit to buy from them the Island of Manhattan.

"I wonder what our city will be like three hundred years from now," said Doodle, "and what will be its fate!"

APPENDIX

DIRECTIONS FOR REACHING THE MUSEUMS AND OTHER POINTS OF INTEREST DESCRIBED IN THIS BOOK, WITH OTHER USEFUL INFORMATION.

CHAPTER II

The New York Aquarium, in Battery Park, is open daily including Sunday (with the exception of Monday forenoon) from 9 A. M. to 5 P. M., April-October; and from 10 A. M. to 4 P. M. November-March. Admission free. It is reached by any Elvated, Surface or Subway line running to South Ferry.

Exhibits of living fishes, aquatic reptiles, marine mammals and invertebrates.

CHAPTERS IV AND V

The New York Zoological Park is open daily from May 1 to November 1, from 9 A. M. until half an hour before sunset, from November 1 to May 1, from 10 A. M. until half an hour before sunset. It is free except on Mondays and Thursdays when an admission fee of twenty-five cents is charged and it is free on all holidays and on Mondays and Thursdays when holidays fall on those days. Tickets are sold only at the entrance gates. Take Bronx Park Express Subway train to Terminus at West

Farms 180th Street; or the Third Avenue Elevated to Fordham Station, from which the northeast entrance is half a mile distant due eastward on Pelham Avenue, and reached by the Union Railway surface cars.

"The Green Cars."— From Fordham and High Bridge, and also from the corner of Third Avenue and 180th Street, the green trolley cars of the new Interborough line pass the Crotona (southwest) Entrance and run within one block of the Fordham Entrance.

Via the Harlem Railroad.— Another way to reach the Park from lower New York is the Harlem Railroad from the Grand Central Station to Fordham Station, (twenty-five cents for the round trip), whence a carriage may be taken to the Park at a fare of twenty-five cents for each person. The running time between Fordham and 42d Street is about twenty-five minutes.

Routes for Automobiles or Carriages.— Via Central Park, Lenox Avenue, Macomb's Dam Bridge and Jerome or Washington Avenues to Pelham Avenue, thence eastward to the Concourse Entrance, where motor cars are admitted to the Park.

The Service Building, No. 28, situated near the Reptile House, contains the offices of the Director, Chief Clerk and several other Park officers, workshops and storerooms.

Children lost in the Park, and property lost or found, should be reported without delay at the Chief Clerk's office in this building.

Wheeled Chairs can always be obtained at the entrances, by applying to gatekeepers, or at the office of the Chief Clerk, in the Service Building.

The cost is 25 cents per hour; with an attendant, 50 cents per hour.

Exhibits of living mammals, birds and reptiles.

CHAPTERS VI AND VII

New York Botanical Garden, Bronx Park. Museums open free daily in summer from 10 A. M. to 5 P. M.; in winter from 10 A. M. to 4:30 P. M. Conservatories open free daily from 10 A. M. to 4 P. M. Grounds always open.

The Garden is reached as follows:

I. By the Harlem Division of the New York Central and Hudson River Railroad to Bronx Park Station.

II. By the Third Avenue Elevated Railway to the terminal station of that road at Bronx Park.

III. By the Subway, Lenox Avenue and West Farms branch with transfer at 149th Street and Third Avenue to Elevated Railway, thence to Bronx Park Station.

IV. By trolley car on Webster Avenue to 200th Street or the Woodlawn Road. This line connects with lines from the western part of the Bronx on Kingsbridge Road, and on Tremont Avenue, and also with the line to Yonkers.

V. By trolley line on the White Plains road east of Bronx Park from West Farms, Williamsbridge, and Mt. Vernon, connecting with lines from the eastern part of the Bronx at West Farms and at Mt. Vernon.

VI. By driveways in Mosholu Parkway from Van Cortlandt Park; from Pelham Bay Park through Pelham Parkway; through the Crotona Parkway

and Southern Boulevard from Crotona Park; there are also driveway entrances at 200th Street, convenient for carriages coming from Jerome Avenue; at Newell Avenue, at the northern end of the Garden, for carriages coming from the north; at Bleecker Street on the eastern side of the Garden for carriages coming from the east; and at the Woodlawn Road, convenient for carriages coming from Yonkers, and from other points west and northwest of the Garden.

Exhibits of hardy herbaceous plants, shrubs and trees; tropical and temperate zone plants; plant products, fossil plants; etc.

CHAPTER VIII

American Museum of Natural History, Seventy-seventh Street, from Columbus Avenue to Central Park West. Open daily, except Sundays, from 9 A. M. to 5 P. M. Sundays from 1 to 5 P. M. Always free.

A Kindergarten, in which children receive instruction in subjects relating to Natural History, is held on Wednesday afternoons and all day Saturday.

Take Sixth or Ninth Avenue Elevated Railway to Eighty-first Street, or Subway to Seventy-ninth Street; also reached by all surface cars running through Columbus Avenue or Central Park West.

Exhibits of meteorites, American woods, stuffed and mounted animals and birds, skeletons of antediluvian animals, minerals, gems, shells and ethnological collections illustrating the customs of various races of North and South America.

CHAPTER IX

The Metropolitan Museum of Art, in Central Park, with the main entrance on Fifth Avenue at Eighty-second Street. It is open daily, from 10 A. M. to 6 P. M., in Summer (Saturdays to 10 P. M.; Sundays from 1 to 6 P. M.), in Winter to 5 P. M.

On Mondays and Fridays only, an admission fee of 25 cents is charged (except to members and copyists).

The Fifth Avenue stages pass the door and the Madison Avenue surface cars are one block east. Connection with the Subway is made at Forty-second Street, and with West Side cars at Fifty-ninth and Eighty-sixth Streets. The nearest Third Avenue Elevated Station is at Eighty-fourth Street.

The Library, opening out of Gallery 14 (first floor), is free for reference daily, except Sunday, from 10 A. M. to 5 P. M.

The books number 18,000 volumes; the photographs, 27,000.

A restaurant is in the Basement on the northwest side of the main building. Meals are served *à la carte* from 10 A. M. to 5 P. M.; *table d'hôte* from 12 M. to 5 P. M.

Collections of paintings, sculpture, Egyptian, Greek and Roman antiquities, metal-work, woodwork, furniture, tapestry, lace, armour, etc., etc.

CHAPTER XI

Statue of Liberty Excursions.

The iron steamers *Falcon* and *H. S. Caswell* leave Battery Pier, near the Aquarium, for Bedloe's Is-

land, New York Harbour, every day in the year at every hour on the hour, from 8 A. M. to 8 P. M. Round Trip, 25 cents. Take any elevated, or subway, or surface car to South Ferry. Admission free to statue and fort. Café and Restaurant at New York prices.

THE END

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